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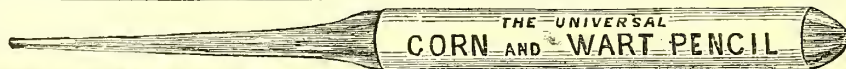
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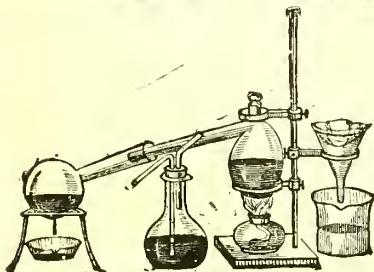
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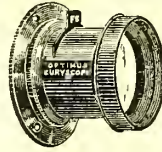
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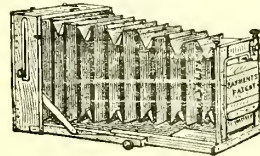
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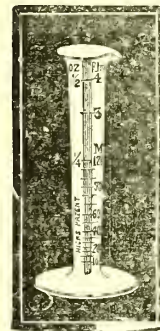
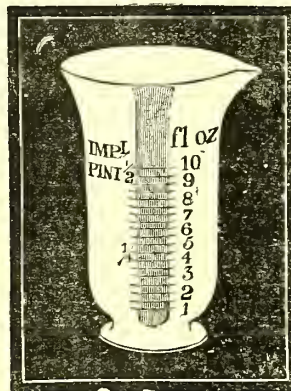
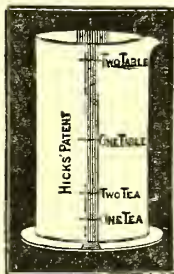
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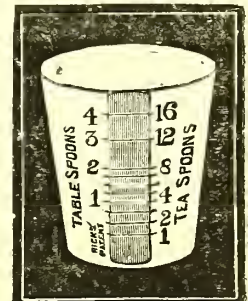
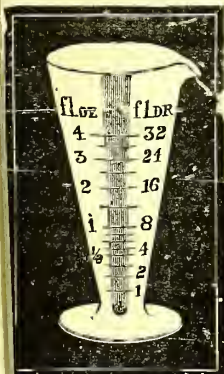
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Second-hand.—195 assorted shop rounds, gold labelled, 5l. 10s.; 146 assorted shop rounds, gold labelled, 3l. 7s.; 2 9½-gallon carboys, with 3¼ in. ebonised plinths, plain stoppers, 2l. 10s. W. Hawk & Son, Shop Fitters, Wild Court, Great Wild Street.

Maw's fig. 2 specie jar, equal to new, glass gilt cover, with square mahogany stand, 2l.; specie jar, not labelled, glass gilt cover, with square mahogany stand, 1l. 10s.; No. 4 Maw's perfume stand, 3 plates, 17s.; 2 plate glass and mahogany flat cases, 2 ft. long, 18 in. wide, 7 in. high, 23s. Gatten, 1 Eudesleigh Gardens, N.W.

12-ft. run drawers, glass labels and glass knobs, with lockers under, mahogany shelving over, surmounted with cornice 9 ft. high, 8l.; pair specie jars, royal arms, gilt glass covers, 3l. 10s.; pair 6 ft. bent plate-glass counter case, as Maw's A 18, 5l. 5s.; 4 ft. 6 in. bent plate-glass case, 17 in. wide, 12 in. deep, with sloping shelf, 4l. 4s.; 6 ft. 9 in. ditto ditto, 7l.; 8 ft. 6 in. plate glass and mahogany ebonised fronted counter with mahogany top, fitted inside with movable shelves, 6l. 10s.; 9 ft. mahogany counter, 5l.; 8-gall. carboy, cut stopper on octagon mahogany stand, 25s.; 4 ft. nest (13) drawers for under counter, for labels, paper, till, &c., 40s.; desk and plate-glass case as Maw's A 31, 55s. Note the address—Natali Bros., 45 Old Street, Goswell Road, London, E.C.

Dispensing screen, 6 ft. with mirror centre and marble slab, 5l. 10s.; 4-ft. sloping counter case, second-hand, similar to Maw's A 7, 40s.; desk and glass case, 40s.; ditto, 55s.; 7-ft. dispensing screen, handsome tablet in centre, 5l.; 12-ft. range polished pine drawers, gold labels and glass knobs, 6l. 12s.; 12-ft. range mahogany ditto with bevelled plate-glass labels, 9l. 10s.; 4-gal. swan-neck carboy and stand, 35s.; 2-gal. ditto, 15s.; 6-gal. pear-shape carboys, 10s. each; 6-gal. ditto, 15s. each; 10 gal. ditto, 21s.; 180 gold-labelled shop rounds, jars, and syrup bottles, 9l. 10s.; 12 1-qt. blue syrup bottles, 1s. each; 24 4-lb. best pink jars, 4s. 6d. each; 24 (each) 2-lb., 3-lb., and 4-lb. gold-labelled blue jars, 1s. 6d., 2s., and 2s. 6d. each. R. Tomlinson & Sons, Bond Street, Birmingham.

Soda-water Machinery.

From 10 to 20 gross Syke's Macray patent bottles, in boxes if desired; wiring stand; steam bottle-brushing head, gasometer; no reasonable offer refused. 117 Uxbridge Road, London, W.

Miscellaneous.

Piudar's piping press. Armstrong, 166 North End Road, Fulham, S.W.

Enterprise drug mill, medium size, scarcely used, price 2l. 10s. Upson, Maidenhead.

Three six and two three gallon window carboys, cheap, or exchange. Pollard, Halifax.

25l. tricycle, equal to new, only 10l. Livesey, Medical Hall, Hurst, Ashton-under-Lyne.

Enema, as 1,428 May, Robert's list, never used. Fowler, Chemist, Heathcote, Wolverhampton.

Two pill-machines, one with marble slab, to cut 24, now Maw's; cheap. Waterhouse, Ramsgate.

Ammoniaophone, used once for ten minutes, as good as new, 7s. 6d., or exchange. Smith, Chemist, Pershore.

Gum, 8l. and 1s. lb., picked 1s. 6d. lb.; arrow-root (finest), 5d. lb.; senna at 2d. 1b. Drug Stores, 295 Old Street, E.C.

Myers' cattle spice, 4 and 1 cwt. bags; India oil of mustard seed, 1s. and 2s. bottles; open to cash offers, any quantity. 16/39.

A Fourness or Wenham lamp, small size; plate-glass show shelves; and 80 oz. wide-mouth stoppered bottles. Walker, Little Brighton, Birkenhead.

Cheap.—Two nests drawers and shelving; shop desk; carboys; shop rounds; surplus stock; counter scales; pill machine. Full particulars, Flemons, Dunstable.

Abraham's revolving advertising lamp for 20s., cost about 8l.; also lobby or passage lamp (petroleum), cost 2l., take 15s. Stead, Chemist, Heckmondwike.

5 1-lb. bottles ol. menth. pip. American, 12s. each; large mixing and sieving machine; tea mill; coffee mill; Carr's drug mill; cash or exchange. Wilks, Burnley.

Ems & Vichy waters, glass quarts, many quite clean, also some soiled, sell or exchange; offers requested for any quantity. Baxter, Chemist, Bramley, Leeds.

Soiled patent medicines, cheap, send for list: also few dozen Herbert & Godfrey's spectacles; what offers, cash? Cattell, Great Lister Street, Birmingham.

Microscope slides, medical, botanical, insect parts, brilliant opaque, gorgeous polarising, &c.; 5s. doz.; cash returned if not approved. Henry Ebbage, 344 Caledonian Road, London.

Collection of minerals, about six hundred fine specimens, in mahogany cabinet, 42 in. high, 39 in. wide 13 in. deep, 54 drawers; also Dana's "System of Mineralogy," 42s. edition; Simplex type-writer, nearly new. 15/9.

1 cwt. pulv. zingib. Afric.; 12 lb. Maranta opt. St. Vincent; 23 lb. aloes Barb.; 7 lb. rad. curcum; 2 dozen glass stop macerating bottles, labelled, violet glass; small stock normal glues; pair Avery's scales and weights, new. Titmas, 21 Rosamond Street West, Manchester.

Surplus Stock.—Three 1-lb. Lorimer's syrup hypophosphites, unopened, 1s. 9d. each; 1 Acacia balsum, 1s. 6d.; one 4s. 6d. kalydor, 2s. 3d.; one 1-lb. revalenta, 2s. 3d.; three 4 lb. ditto, 1s. 2d. each; 1,000 Mather's fly papers, new, unopened, 14s.; 3 Maw's urinals, fig. 19 and 25, half-price; gingerbread worm cakes, new, 5s. 6d. gross in 3 dozen tins; 5 Keating's lozenges, 6d. each; 2 Lozock's wafers, 6d. each; 1 gross 2d. metal polish (German), new, 10l. dozen; quantity extra-strong mint lozenges, superior, 7d. lb.; cheaper ditto, 4½d. all good as new; liquorice, 9 to 1b., 7d. lb.; superior Pontefract cakes, 7d. lb.; cachou lozenges, 5d. lb.; mixed fruit p-stilles, 4d. and 6d. lb.; musk cachous, 5d. lb. Riddle, Cuthbert Street, South Shields.

WANTED.

Bent-glass counter case, 5½ feet, as Maw's A 13. Bell, Spalding.

Chemist's outside lamp, with bracket. Preston, Chemist, Middlesborough.

Nest of good drawers, length about 11 ft.; state price. Young, Pontefract.

Hand mill to grind linseed; send price. Upson, Maidenhead.

Very small tin pneumatic trough, cheap, second, hand. Harry Howorth, Avenham Road, Preston.

Dental operating chair and other dental apparatus, lowest cash price. Thomas, Hampton.

Two 4-gallon swan-neck carboys, cut stoppers; state price delivered. Sumner, Chemist, Heckington.

Suppository-mould; 2 or 3 grain pill machine, perfect. Walton, Pharmacist, Sowerby Bridge, Yorks.

"British Pharmacopoeia," 1885; Attfield's "Chemistry," last edition; "Selecta e Prescriptis," White, 93 Yorkshire Street, Rochdale.

Old gold, silver, and dental metals; full assay value given in cash or high-class mechanical work. Entwistle, Dentist, 39 Shaw Street, Liverpool.

HAY'S HOP ALE ESSENCE

REGISTERED TRADE MARK.

FOR THE MANUFACTURE OF THE FINEST AERATED HOP ALE.

Is made from the Choicest Hops Grown.

HAY'S HOP ALE ESSENCE

TRADE MARK

HAY'S HOP ALE

"Supplies an excellent stomachic, appetising, and agreeable summer drink."

Brewers' Journal.

"A beautiful essence, has a fine Hop Aroma, and is quite a pharmaceutical triumph."

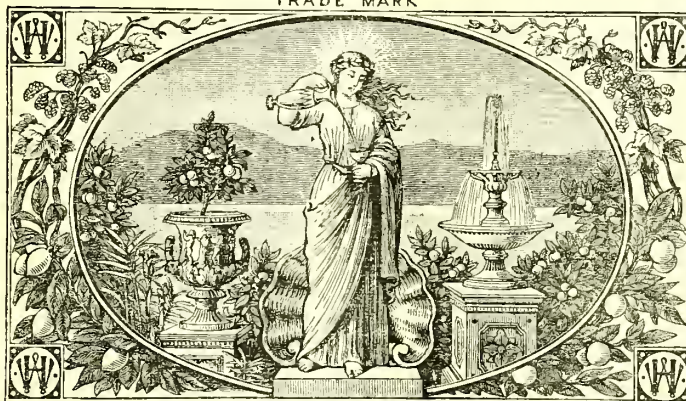
The Chemist and Druggist.

"For this Essence a brilliant future may be anticipated. It possesses characteristics very seldom to be met with."

Mineral Water Trade Review.

"For flavour, strength, and real solubility, this Essence leaves nothing to be desired."

British & Colonial Druggist.



REGISTERED.

TRADE MARK

Trade Price, 8s. 6d. per lb.; 12 lbs. and upwards, 8s.

Quantity required, two fluid oz. to each gallon of Syrup, making 106 10-oz. Bottles.

"This is an excellent Non-Alcoholic beverage."

The Lancet.

"Evokes a delicious aroma of Hops."

Medical Press.

"It is a Fine Bitter Beer, pouring out with a rich creamy head."

British & Colonial Druggist.

"Possesses the Aromatic bouquet and pleasant flavour of the genuine Hop."

Mineral Water Trade Review

"Is a nearer approach to Bass or Allsopp's Ale than any non-intoxicants preceding it."

Eastern Morning News.

HAY'S HOP ALE ESSENCE

FOR THE MANUFACTURE OF THE FINEST AERATED HOP ALE.

"Since Mr. HAY, the well-known Manufacturing Chemist, of Hull, surprised the Pharmaceutical world, some ten years since, by the production of that, until then, had been thought an impossibility, viz., a perfectly soluble and transparent ESSENCE OF GINGER, nothing he has done has attracted so much attention in this direction as his latest ESSENCE OF HOPS, which, like his other Essences, is a production unique itself. The HOP ALE made from this Essence evolves a DELICIOUS AROMA OF HOPS, and supplies that much longed-for desideratum of abstainers, 'A Glass of Non-Alcoholic Beer.' We have always felt that teetotallers laboured under a disadvantage that ought not to exist, in having no really decent beverage in the place of Wine and Beer. By this Pharmaceutical triumph of Mr. HAY, this difficulty has been overcome, and it affords us much pleasure to commend this truly Temperance Drink to the notice of abstainers and non-alcoholic abstainers alike."

Medical Press.

HAY'S HOP ALE ESSENCE [1]

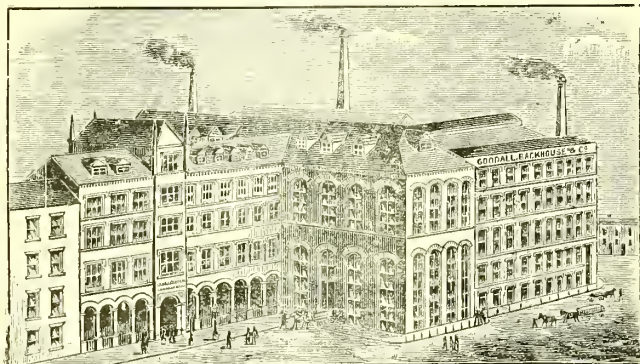
"I certainly remarkable for the purity and reality of its results. Made from the choicest hops, and treated in a manner of which Mr. HAY appears to possess the monopoly, this HOP ALE ESSENCE supplies an excellent stomachic, and an agreeable stimulating Summer Drink. The HOP ALE produced by this ESSENCE is of a most refreshing and invigorating character, with all the appetising flavour and delicate aroma of its more intoxicating prototype, which it approximates more closely than any similar preparation we have yet tasted. It may be advantageously taken up as a speciality for which a large consumption may safely be predicted."—*Brewers' Journal.*

W. HAY, Manufacturing Chemist, Beverley Road, HULL, ENGLAND.

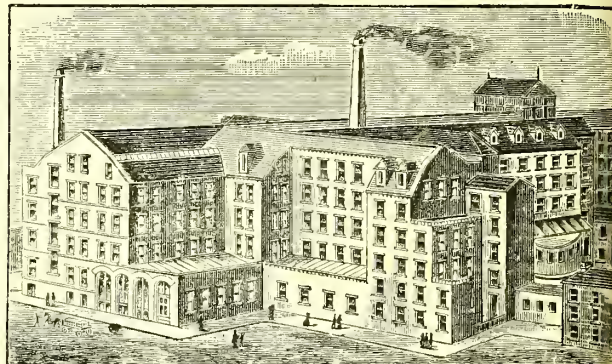
GOODALL, BACKHOUSE & CO.'S

PREMISES AT LEEDS,

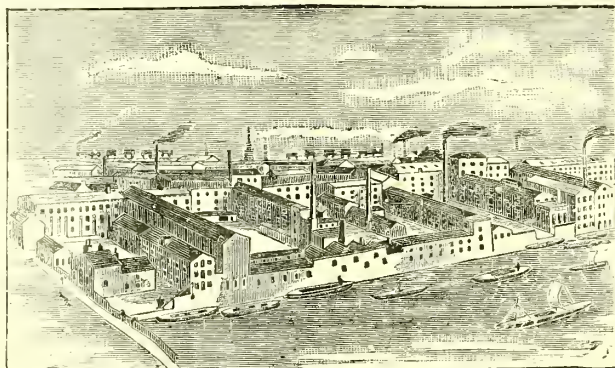
CONTAINING A FLOOR AREA OF EIGHT ACRES.



Warehouse and Offices, White Horse Street—West View.



Warehouse and Offices, White Horse Street—South and East View.



Manufactory, Sovereign street. Frontage 1,048 feet.



GOODALL'S HOUSEHOLD SPECIALITIES.

YORKSHIRE RELISH,

MOST DELICIOUS SAUCE IN THE WORLD.
In Bottles, 6d., 1s., and 2s. each.

GOODALL'S BAKING POWDER,

THE BEST IN THE WORLD.
1d. Packets; 6d., 1s., 2s., and 5s. Tins.

GOODALL'S EGG POWDER,

ONE 6d. TIN IS EQUAL TO 25 EGGS.
In 1d. Packets; 6d., 1s., 2s., and 5s. Tins.

GOODALL'S CUSTARD POWDER,

DELICIOUS CUSTARDS WITHOUT EGGS.
In Boxes, 2d., 6d., and 1s. each.

GOODALL'S QUININE WINE, B.P.

BEST TONIC YET INTRODUCED.
Bottles, 6d., 1s., and 2s. each.

GOODALL'S GINGER-BEER POWDER,

MAKES THE BEST GINGER BEER.
Packets, 3d. and 6d. each.

GOODALL'S BRUNSWICK BLACK,

FOR PAINTING STOVES, GRATES, IRON, TIN, &c.
6d. and 1s. Bottles.

GOODALL'S LAVENDER WATER,

A RICH AND LASTING PERFUME.
In Bottles, 1s., 2s., 5s., and 10s. 6d. each.

GOODALL'S PLATE POWDER,

FOR POLISHING AND CLEANING ALL METALS.
Boxes, 6d., 1s., and 2s. each.

GOODALL'S CALF'S FOOT JELLY,

PURE, STRENGTHENING, AND PALATABLE.
In Bottles, 6d., 1s., and 2s. each.

GOODALL'S BLANCMANGE POWDER,

DELICIOUS BLANCMANGE IN A FEW MINUTES. In Boxes, 6d. and 1s. each.

Proprietors—GOODALL, BACKHOUSE & CO., LEEDS.

PATENT MEDICINES AND GROCERS' SUNDRIES.

Monthly Price List of Patent Medicines, Grocers' Sundries, &c., will be sent post-free on application to

GOODALL, BACKHOUSE & CO., LEEDS.

GOODALL, BACKHOUSE & CO.



WHOLESALE & EXPORT DRUGGISTS,



Druggists' Sundrymen, Patent Medicine Dealers,
Drug and Spice Grinders, Distillers and Drysalters.

MANUFACTURING & ANALYTICAL CHEMISTS,

IMPORTERS OF

Olive Oil, Castor Oil, Cod-liver Oil, Essence of Lemon, Cream
of Tartar, Bees Wax, Dalmatian Insect Flowers, &c., &c.

SPECIAL MANUFACTURES—

Acetate of Amyl.

„ of Lead.

Acetic Ether.

Alcohol, Absolute.

Ammon. Bromid.

Barium Chloride.

„ Nitrate.

Citrate of Iron and Quinine.

„ of Potash.

Decoctions, Infusions, & Liquid

Extracts (concentrated in vacuo).

Ferri Iodid.

„ Sulph., Pure.

Lac Sulph.

Orange Quinine Wine, B.P.

Phosphate of Soda.

Phosphoric Acid.

Potass. Iodid.

Potass. Bromid.

Salts of Lemon.

Sedii Bromid.

Spt. Æther. Nit.

„ Ammon. Co.

Sulphur Præcip., B.P.

Syrup Rhæados.

Terebene.

Verdigris.

AND ALL PHARMACEUTICAL PREPARATIONS.

CITRATE OF MAGNESIA AND LEMON KALI.

HERB BEER EXTRACT AND COMPOSITION ESSENCE.

MAKERS OF ALL KINDS OF

PLAIN ROUND, SQUARE, AND OBLONG TINS.

PROPRIETORS AND SOLE MANUFACTURERS OF

GOODALL'S HOUSEHOLD SPECIALITIES,

KAYBERRY'S LUMBAGO PILLS,

AND

FREEMAN'S SYRUP OF PHOSPHORUS.

DETAILED PRICE LIST ON APPLICATION.

GOODALL, BACKHOUSE & CO., LEEDS.

TELEGRAPHIC ADDRESS, "RELISH LEEDS."

THE BEST NATURAL APERIENT.

Persistent attempts are made by interested parties to deceive the public by offering Natural Mineral Aperient Waters with marks, names, and designations very similar to those which are used by the **APOLLINARIS COMPANY (LIMITED)** upon the **NATURAL MINERAL APERIENT WATERS** imported by them.

Under these circumstances the **APOLLINARIS COMPANY (LIMITED)** feel compelled to caution the public that the **HUNGARIAN BITTER WATER** sold by the **COMPANY** always bears the name of the **APOLLINARIS COMPANY (LIMITED)** on the Label, and a **RED DIAMOND**, which is their **TRADE MARK** of Selection.

DEMAND THE DIAMOND MARK,

and insist upon receiving the **HUNGARIAN APERIENT WATER** of the **APOLLINARIS COMPANY (LIMITED)**.

146 MINORIES LONDON E.C.
New York
Sunderland
&c.

SODA WATER MACHINERY
AND ALL ACCESSORIES
FOR THE TRADE

BRATBY & HINCHLIFFE
HEAD OFFICE
SANDFORD ST ANCOATS MANCHESTER

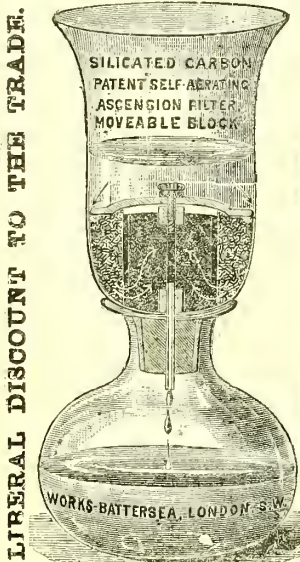
BOXES BOTTLES MACHINERY
ESSENCES
Catalogues Circulars Testimonials
Post Free

QUEEN

FLATNESS OF TASTE

SO COMMON IN FILTERED WATER,

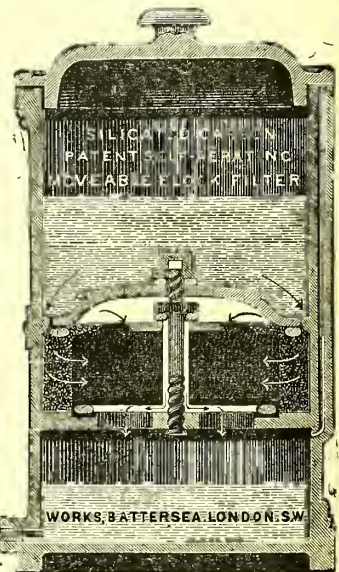
OBVIATED
BY USING
**SILICATED
CARBON
FILTERS
AERATED**



Glass Table Filters.

By means of which the water is Aerated and Filtered simultaneously, rendering it, even after boiling, Pure, Bright, and Palatable.

The Silicated Carbon Block can be Instantly Removed, leaving the whole of the Filter Open for Inspection and Cleansing.



Domestic Filters

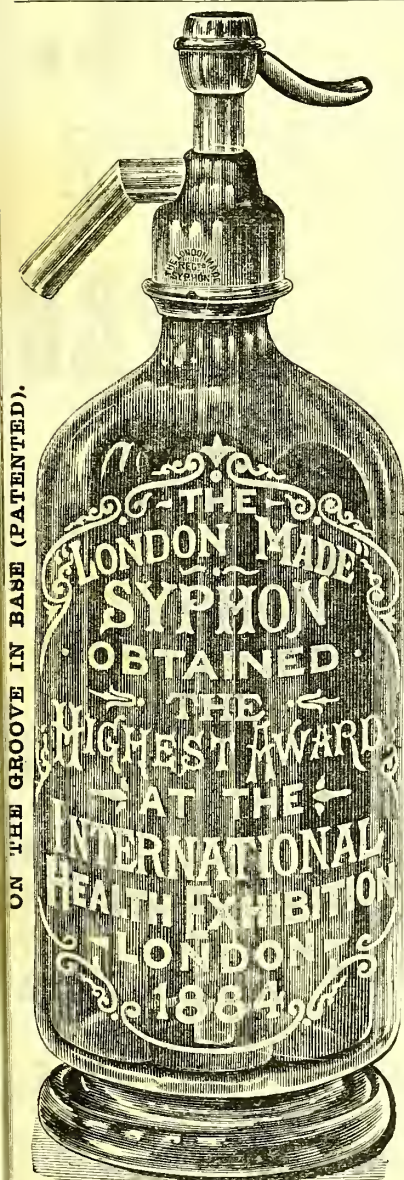
LIBERAL DISCOUNT TO THE TRADE.

FOR PRICES AND FULL PARTICULARS, WRITE TO THE
SILICATED CARBON FILTER CO., BATTERSEA, LONDON, S.W.

THE "LONDON-MADE" SYPHON BOTTLE

(TITLE REGISTERED).

Obtained the **HIGHEST AWARD** at the International Health Exhibition, London, 1884.



ON THE GROOVE IN BASE (PATENTED).

The high reputation this bottle has achieved is due to the fact of its being in every particular the most perfect yet introduced; and when compared with others in the market it stands pre-eminent. It is most simple in its working parts, therefore the least liable to get out of order; it is the most easily opened, the lightest pressure on the handle being sufficient; it produces a more highly-charged gaseous water than is usually obtained from siphons; it compares most favourably in appearance with any, and the metal top being entirely free from lead, the prejudice against siphon drinks is at once removed, as the liquid passes over pure tin only.

All our Syphons are now fitted at the base with a groove, so that drips from the spout that run down the sides are prevented from soiling the table. See drawing.

NOTE.—Syphons made with our patent foot for collecting excess of liquid dripping from the spout after use are supplied at no extra charge, and will be found of great utility in preventing stains, &c., upon table linen. This is a desideratum long been wanting, particularly for private-house use. Send for sample; forwarded upon receipt of 2s.

Any name, crest, or trade-mark put on the glass by an improved acid process, at from 1s. to 2s. per gross. There is a three-fold advantage in this, as it forms a continual advertisement, is a great ornament, and a preventive of fraud. The plate for engraving costs extra from 5s. upwards, according to the artistic device required.

PRICES (WHITE, BLUE, GREEN, OR AMBER):—

	By the gross,	Less than 1 gross.
quart size	per doz.	per doz.
int size	£1 2 0	£1 2 0
half-pint, Pear shape	1 1 0	1 3 0
octagonal vases, any colour (including Azure Blue)	1 0 0	1 2 0
ops, nickel-plated, from 5s. 6d. per doz. extra. Tops, silver-plated and burnished, 3m 5s. per doz. extra. A charge is made for packing, except when ordered in our patent bin cases (holding one dozen each, price 2s. 6d. each).	1 4 0	1 6 0

Please Note.—B. & F. are the only firm manufacturing Syphons in England at do not supply them filled, and so compete with their customers' trade.

BARNETT & FOSTER,

MINERAL WATER ENGINEERS,

Manufacturing Chemists, and General Providers for the Aerated Water

Wine, Beer, and Cyder Trades,

"Niagara Works," 26th Eagle Wharf Road, London, N.

Send for Price List of Soda-water Machinery and Accessories.

TO THE CHEMISTS & DRUGGISTS OF GREAT BRITAIN.

TELEGRAPHIC ADDRESS:

COLEMAN,

GEORGE'S, NORWICH.

St. George's, Middle St.,

NORWICH,

December, 1887.

The Excise Authorities having created a difficulty as to the sale of Medicated Wine containing a certain percentage of alcohol, we obtained in January last, from the Inland Revenue Authorities, permission to sell our Liebig's Extract of Meat and Malt Wine, **WITH QUININE**, without a Wine Licence, and many Chemists not holding a Wine Licence have sold considerable quantities. In order further to meet the requirements of the trade, we have introduced a Liebig's Extract of Meat and Malt Wine, **NON-Alcoholic**, made from the juice of the Grape, Liebig's Extract of Meat, and Extract of Malt. This also can be **SOLD WITHOUT A WINE LICENCE**. Your orders will oblige either direct or through the Wholesale Houses.

Yours obediently,

COLEMAN & CO., LIMITED.

*N.B.—The Wine is sold in Bottles, 2/9 and 4/6 each.
Trade prices on application.*

P.S.—Where the Licence is not held we are willing to pay the entire cost of a Retail Licence (the holder of which can sell any kind of Wines) if an assorted order of 6 dozen is sent us of any of our preparations. List on application. Our Liebig's Extract of Meat and Malt Wine **WITHOUT QUININE** commands a very large sale, and is recommended by over one thousand medical men who have sent us testimonials in its favour.

SOLE MANUFACTURERS—

COLEMAN & CO., LIMITED,

ST. GEORGE'S, NORWICH,

AND 3 NEW LONDON STREET, LONDON, E.C.

MITRE TEA.

COMFORT & PROLONG YOUR EXISTENCE

BY DRINKING

MITRE TEA.

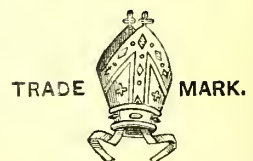


Mitre "Broken Leaf"	s. d.
1 4	
Mitre "Broken Am. Pekoe"	1 8
Mitre "Thrift" (whole leaf)	1 8
Mitre "Kee-Mun" ...	2 0
Mitre "Amgoorie" ...	2 6



Fac-Simile of Show Card distributed Gratis to all Agents.

MITRE TEA.



Mitre "Broken Leaf"	s. d.
1 4	
Mitre "Broken Am. Pekoe"	1 8
Mitre "Thrift" (whole leaf)	1 8
Mitre "Kee-Mun" ...	2 0
Mitre "Amgoorie" ...	2 6

Sold by Specially Selected Agents. Wrapped in $\frac{1}{4}$ -lb., $\frac{1}{2}$ -lb., & 1-lb. Parcels.

VALUABLE AGENCY.

Framed Show Cards, Enamelled Iron Tablets, Posters, Window Transfer, and Handbills with Agent's Name on supplied free. Newspaper and Railway Station Advertisements to suit the requirements of Agents. Applications for Agencies where unrepresented will receive prompt attention. Price Current and Pamphlet, with Terms, post free.

KEARLEY & TONGE, MITRE SQUARE, LONDON, E.C.

TELEPHONE No. 4307.

Telegraphic Address—"AMGOORIE LONDON."

TOWER TEA.

A MOST VALUABLE AGENCY.

TOWER TEA.—Only the choicest kinds, selected from the London import market, are used. Absolute reliance can be placed on its perfect purity and uniform high quality.

TOWER TEA.—Used by thrifty housekeepers; sold by enterprising agents in every town in the United Kingdom, who find it a profitable Agency.



Tower Tea

Registered Trade Marks, Nos. 44,027 and 43,992.

NOTE. THE ABOVE TRADE MARKS APPEAR ON EVERY PACKAGE.

TOWER TEA.—HUNDREDS OF TESTIMONIALS from all parts of the kingdom speak to the excellent character of this Tea, its popularity with all classes, and the high value of the Agency. A representative selection of these testimonials has been published, and can be had on application, with samples of undermentioned Teas; also the little pamphlet, "A Short History of Tower Tea"; and the book of pictures, "Voyage and Adventures of Ah-Chin-Chin" (1s.).

TOWER TEA, 1s. 4d. per lb. (retail price) Sound Wholesome Tea.

TOWER TEA, 1s. 8d. " " Powerful Tea, whole and semi-leaf.

TOWER TEA, 2s. " " Fine First Crop Tea, from India, China, and Ceylon.

WHERE VACANCIES MAY EXIST, AGENTS ARE APPOINTED BY

THE GREAT TOWER STREET TEA CO., LD.
3 JEWRY STREET, LONDON, E.C.

APPOINTMENT OF AGENTS.

UNITED KINGDOM TEA COMPANY,

21 MINCING LANE, LONDON,

Are prepared to entertain a limited number of applications from Traders of undoubted standing to be appointed Agents or the sale of the Company's Teas. A Liberal Commission will be allowed. The Agency will be found to be a valuable one, entailing little, if any, trouble to the Agent, in addition to which it will be the means of bringing numerous customers to him, who will patronise his general business.

Address the Secretary—**UNITED KINGDOM TEA COMPANY, LIMITED,**
Offices—21 MINCING LANE, LONDON, E.C.

EVERY CHEMIST & DRUGGIST

Should write for samples and terms (post free) of the Delicious Spring Blossom Ceylon Tea. This valuable and profitable agency is worth securing. Handsomely and specially packed for Chemists' sale in air-tight canisters.

In $\frac{1}{4}$ -lb., $\frac{1}{2}$ -lb., and 1-lb. Canisters, to sell Retail at 2/, 2 6, and 3/ per lb. Set of three $\frac{1}{4}$ -lb. samples post free for 2/ in stamps.

CAVE, JOHNSON & CO., WHOLESALE TEA AND COFFEE DEALERS. **8 LIME ST., LONDON, E.C.**

MILK IN POWDER

PREPARED BY THE SWISS MILK CO., ST. GALL, SWITZERLAND.

UNSWEETENED OR SWEETENED.

The cheapest, purest, and most nutritious of all similar productions.

The Lancet says:—A very interesting and valuable preparation.

British Medical says:—The preparation represents the highest possible degree of concentration which can be obtained, and is sure to be appreciated.

The Medical Press says:—A milk which is with difficulty distinguished from fresh cow's milk.

CARL LAWINSKI, 50 Mark Lane, LONDON, E.C.

ENGLISH CONDENSED MILK.

ESSEX AND PRIORY BRANDS.

Pure Home-produced British Milk. This Milk is under strict daily analyses and free from all possible contamination, and is the Best Food for Infants, &c.
Letter & Telegraphic Address—"COUNTIES COLCHESTER."

ROBERT GIBSON & SONS,
MANUFACTURERS OF HIGH-CLASS LOZENGES OF EVERY DESCRIPTION,
JUJUBES, BOILED SUGARS, COMPRESSED PELLETS, &c., &c.

Shipped through London Houses to all parts of the World. Price Lists sent on application to the Works,
ERSKINE STREET, HULME, MANCHESTER ENGLAND
LONDON DEPOT—1 AUSTRALIAN AVENUE.

S. MAW, SON & THOMPSON'S

CHEST PROTECTORS AND VESTS

For Shielding the Lungs.

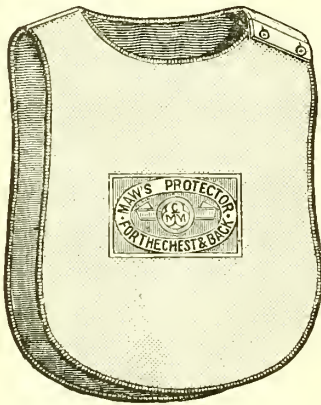


FIG. 3.

Double, for the Chest and Back.

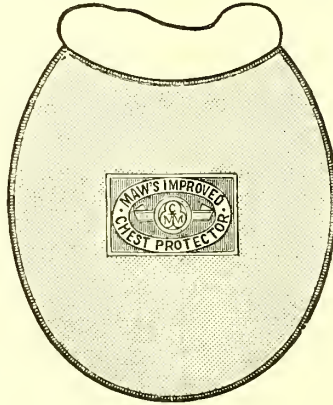


FIG. 4.

Single, Chest Protector.

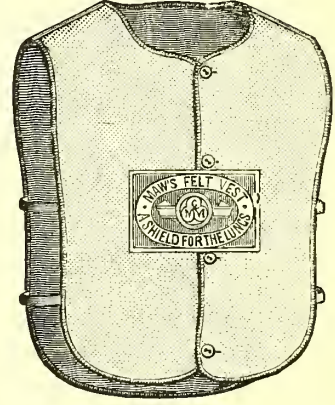


FIG. 5.

Vest, a Shield for the Lungs.

CHAMOIS AND FLANNEL.

					No. 1	No. 2	No. 3	No. 4
Fig. 3.	Double	...	...	per doz.	20/	26/	32/	39/
	Ditto, perforated...	...	...	„	24/	32/	38/	46/
Fig. 4.	Single...	...	...	„	9/	11/6	13/6	16/
	Ditto, perforated...	...	...	„	11/	14/	16/	19/
Fig. 5.	Vests	„	...	„	27/	34/	42/	51/

FELT, ASSORTED SCARLET AND WHITE.

					No. 1	No. 2	No. 3	No. 4	No. 5
Fig. 3.	Double, best...	...	per doz.		17/	22/	27/	33/	44/
	Ditto, second	...	„		14/6	19/	23/	28/	37/
Fig. 4.	Single, best	„		7/6	9/6	11/	14/	20/
	Ditto, second	...	„		6/6	8/	9/6	12/	16/
Fig. 5.	Vests, Scarlet	...	„		17/	22/	27/	33/	40/

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Maw, Son and Thompson

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Type-Writer

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Evans, Sons and Co.
Evans, Sons and Masor (Lim.
Ferris and Co.
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Harker, Stagg and Morgan
Heaton, Squire and Francis
Hewlett and Co.
Lorimer and Co.
Lothhouse and Saltmer
Hill, A. S., and Son
Oldfield, Pattinson and Co.
Potter & Clarke (American, &c.
Sumner, R., and Co.
Sykes and Co.
Thompson, Millard and Co.
Willows, Francis, and Butler
Woolley, Jas., Sons and Co.
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Wyleys and Co.

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Corran, J. R. (Engraved)

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Goodall, Backhouse and Co.
Idris & Co. ((Quinine Wine)
Ingram and Korye
Phillips, G. and Co. (Pure
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SEE NEWBERY'S

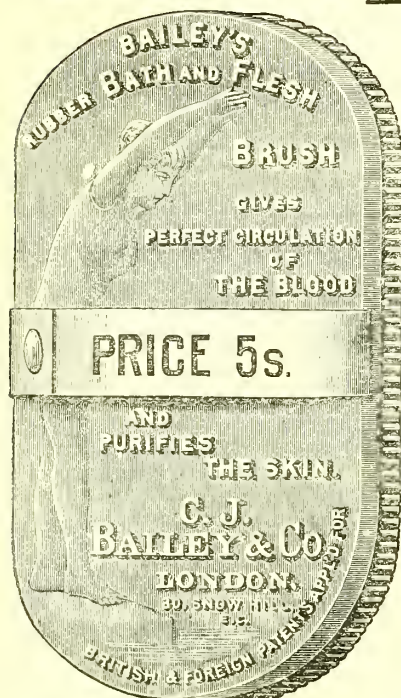
1888 CATALOGUE.



Label Design Registered under Trade Marks Act.

Vases supplied with Pills only.

BAILEY'S RUBBER FLESH BRUSH.



We have received for trial and notice from Messrs. Bailey & Co., 30 Snow Hill, London, E.C., specimens of their bath and flesh brushes. These are entirely formed of vulcanised india-rubber. The back is about one third of an inch in thickness, and is sufficiently flexible to adapt itself to the curved surfaces of the body and limbs. In the place of the bristles of the ordinary brush is a series of small india-rubber rods, nearly two thousand in number. These have a very efficacious action in removing dirt from the hands, arms, and in rubbing away the dead cuticle from the surface of the skin of the body. The action of the brush used with soap and water more nearly resembles shampooing than ordinary rubbing. It is admirably adapted for use after exercise, being more detergent than a sponge or towel, and producing a very pleasant effect after fatigue. For athletes, it is certainly one of the best flesh brushes we have seen, as it leaves the skin in a condition most favourable to its healthy action.—*Field*, April 14, 1888.

BAILEY'S RUBBER BATH BRUSH.

Valuable as the use of the flesh brush is when employed in the bath in removing the outer or dead portions of the cuticle, and so promoting the healthy action of the skin, its use is not unfrequently objected to, on account of the redness it produces, owing to the bristles irritating the skin. Messrs. Bailey & Co. have forwarded to us a bath brush formed, so to speak, of bristles or slender rods of india-rubber, many hundreds in number. These are set in a flexible back, which adapts itself to the curves of the body. When used in the bath with any ordinary soap its action in rubbing away the effete portions of the skin, and leaving a beautifully smooth surface, is most satisfactory, and it produces a sensation of comfort that must be felt to be fully appreciated. The most skilled shampooer could not obtain a more marked effect. The gentle rubbing friction of the brush not only promotes the circulation of the blood, but by causing a due action of the skin, relieves the congestion of the muscles or internal organs, and produces a feeling of relief after fatigue that is most satisfactory. We can recommend this new bath brush very strongly. Smaller brushes are also made as toilet brushes, which are most efficacious in cleaning and whitening the hands. These brushes may be obtained of any druggist or dealer in toilet articles, the wholesale depot being 30 Snow Hill, E.C.—*Queen*, April 14, 1888.

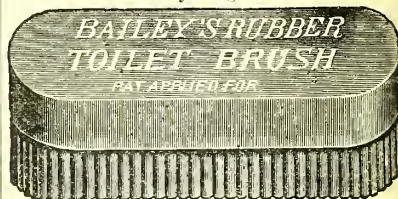
Price TWO GUINEAS per dozen.

Send us postal order and we will forward by return post.

For Sale by all Chemists.

CLEAN HANDS

For everyone, no matter what the occupation, by using



It removes Ink, Tar, Grease, Paint, Iron Stains, and in fact everything foreign to the colour of the skin, simply by using with soap and water. It never becomes foul or carries any contagion, and will not injure the most delicate skin, as is done by the use of Pumice Stone, Bristle Brushes, &c. Printers, Penmen, Typewriters, Blacksmiths, Machinists, Shoemakers, Painters, Farmers, and all whose hands are stained by their labour can cleanse them easily without rupturing or weakening the skin.

Price One Shilling; large size, Two Shillings. Send us postal order and we will forward by return post. For sale by all Chemists.

Small size, 8s., and Larger size, 17s. per dozen.

C. J. BAILEY & CO.,

30 SNOW HILL, LONDON.

C. J. BAILEY & CO., Manufacturers, 30 Snow Hill, LONDON, E.C.

BRONCHITIS KETTLES

(BLOCK TIN).

3½ Pints, per dozen, 20/; 5 Pints, per dozen, 25/; 7 Pints, per dozen, 31/6—10% and 5% one month.

If with Wide Spouts, 3/; 5/; and 6/ per dozen extra. 2/ per dozen less for complete dozen, all one size or assorted.

THE OXFORD INHALER

(EARTHENWARE)

Will be found very saleable during the coming months. Price complete, per dozen, 17/, less 10% and 5% one month.

WINTER SEASON, 1888-9.

PURCHASERS OF

CHEST PROTECTORS, RESPIRATORS,
HOT-WATER BOTTLES, STRAW SOCKS, &c., &c.

Are invited to pay a visit to our Showroom, and to compare our prices before ordering elsewhere.

READY ON OCTOBER 1st.

J. SANGER & SONS' ADDENDA TO PRICE CURRENT,

Containing all the Newest Proprietaries and most recent prices. Sent, post free, on receipt of business card.

Inspect our well assorted Stock of DRUGGISTS' SUNDRIES, PERFUMERY, LOZENGES, MINERAL WATERS, &c. Prices compare favourably with others.

AGENCIES OF ALL KINDS UNDERTAKEN ON FAVOURABLE TERMS.

J. SANGER & SONS, 489 OXFORD ST., LONDON, W.

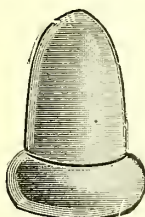
SHIRLEY'S 2ND QUALITY MENTHOL CONES.



4d.—No. 104.
Boxwood. Barrel-
shape. 2s. 9d. per
doz.; 27s. per gross.



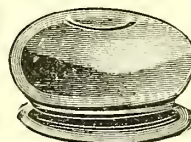
27.—No. 100
Polished Willow
Box.
1s. 5d. per doz.
13s. per gross.



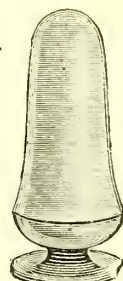
3d.—No. 101.
Willow Acorn.
1s. 10d. per doz.;
17s. per gross.



3d.—No. 102.
Boxwood Pedestal.
2s. 4d. per doz.
24s. per gross.



6d.—No. 105.
Boxwood Butter.
3s. 4d. per doz.
34s. per gross.



4d.—No. 103.
Boxwood Pedestal.
2s. 9d. per doz.
27s. per gross.

These Prices are net, and the Boxes have not the Printed Directions on them.

EAU DE COLOGNE.



In flat watch
bottles with
nickel cap.

Each Bottle is
neatly labelled,
and contains an
ounce of
best quality
Perfume.

A GOOD
SELLING
LINE.

4s. per doz.
12 in a box.

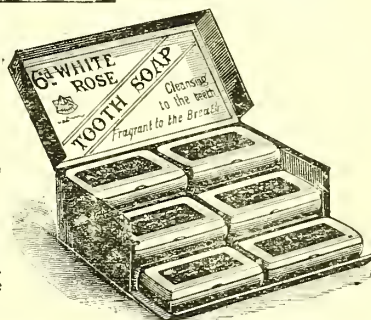
SMELLING SALTS



THE BEST BOTTLE OF THE SEASON.
Filled with strongest ammonia and
agreeably perfumed.
2s. per doz.; 20s. per gross.

TOOTH SOAP (White or Red).

A highly-
scented and
fragrant soap,
nicely got up
in a hinged
metallic box
(Jahnecke's
Patent).
4s. per doz.
The Soap can be
supplied loose,
12 cakes in a
cardboard box,
but without
metallic boxes,
at 3s. per dozen.
This leaves more
profit to the
retailer.



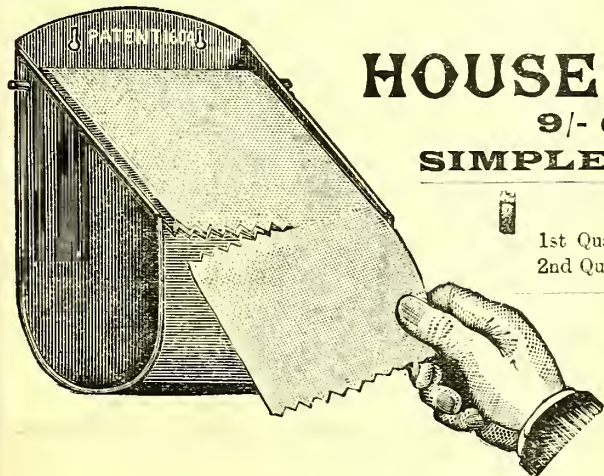
ARTHUR W. SHIRLEY, 30 Paternoster Square, LONDON, E.C.

EUCALYPTUS GLOBULUS.

We distil pure oil of Eucalyptus **GLOBULUS** as a by-product in the manufacture of our Eucalyptus Boiler Fluid, and are, therefore, enabled to place it in quantities at a lower rate than has heretofore been asked for it.

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And 204 MARKET STREET, SAN FRANCISCO.

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THE NEW HOUSEHOLD FIXTURE,

9/- dozen, complete with Roll of Paper.

SIMPLE. EASY. EFFICIENT.

REDUCED PRICE FOR REFILLS.

1st Quality ... 5/6 per dozen, or 63/ per case of 1 gross.
2nd Quality ... 4/6 per dozen, or 100/ per case of 2 gross.

JOHN S. DOWNING

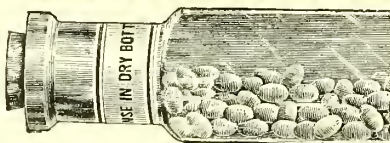
Commercial Street, BIRMINGHAM;

9 ROSE STREET, LONDON, E.C.; 73 VIRGINIA
STREET, GLASGOW.

"The Pills of McKESSON & ROBBINS are quite of the highest class of merit, in respect to the method, in respect to the materials, and in respect to results."—*British Medical Journal*, October, 1881.

A TASTELESS TONIC LAXATIVE GRANULE.

EXACT
SIZE



McK. & R.
PILLS.

Sample Bottles containing 25 Pills, 7s. per doz.; Bottles containing 100 Pills, 24s. per doz.

Formula, Aloin, Strychnine, and Belladonna.—McK. & R. PILLS.

Aloin, 1-5 gr. | Strychnina, 1-60 gr. | Ext. Belladonnæ, 1-8 gr.

DOSE.—One pill three times a day. Morning, noon, and night. Where a painless peristaltic action is desired by the aged or female patient, one pill may be taken every night or second night at bedtime, as directed by medical attendant.

BITTER AND NAUSEOUS DRUGS IN PALATABLE GRANULES.

Calcium Sulphide .. $\frac{1}{4}$ gr.	Ergotin, equal .. 5ss. Ext. 3 gr.	Morphine, Muriate $\frac{1}{4}$ gr.	Quinine, Bi-Sulphate .. $\frac{1}{4}$ gr.	Rhuarb Comp. B.P. ... 5 gr.
" " .. $\frac{1}{4}$ gr.	Euconymin 2 gr.	" " .. $\frac{1}{4}$ gr.	" " .. $\frac{1}{4}$ gr.	Salicylic Acid 2 gr.
" " .. $\frac{1}{4}$ gr.	Iodoform 1 gr.	Opium, Powdered $\frac{1}{4}$ gr.	" " .. $\frac{1}{4}$ gr.	" " .. $\frac{1}{4}$ gr.
Cannabis Indica Ext. $\frac{1}{4}$ gr.	" and Iron..	Podophyllin $\frac{1}{4}$ gr.	" 70 times more soluble than " .. 2 gr.	Strychnine " 5 gr.
Cascara Sagrada Ext. $\frac{1}{4}$ gr.	Ipecac. Powdered $\frac{1}{4}$ gr.	" $\frac{1}{4}$ gr.	" Sulphate to powder .. 3 gr.	Zinc Phosphide $\frac{1}{4}$ gr.
" " .. $\frac{1}{4}$ gr.	Mercury Bin-Iodide .. $\frac{1}{4}$ gr.	" $\frac{1}{4}$ gr.	" " .. 4 gr.	" " .. 4 gr.
" " .. $\frac{1}{4}$ gr.	" Proto-Iodide.. $\frac{1}{4}$ gr.	" Comp. $\frac{1}{4}$ gr.	" " .. 5 gr.	" Valerianate..... 1 gr.

In this form the ingredients are not only perfectly preserved, but do not affect the teeth, or offend the palate, and, further, can be conveniently kept out of sight by those who object to be regarded as invalids. Complete list mailed free on application.

PLEASE SPECIFY McK. and R. PILLS.

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REPORT

ON

COLEMAN'S LIEBIG'S EXTRACT

OF

MEAT AND MALT WINE,

By FRANCIS SUTTON, Esq., F.C.S.,

Public Analyst for the County of Norfolk, &c.

FRANCIS SUTTON, ESQ., F.C.S.,
Analytical and Consulting Chemist,
Author of Handbook of Volumetric Analysis,
Chemist to the Norfolk Chamber of Agriculture,
Gas Examiner for the City of Norwich.

NORFOLK COUNTY ANALYSTS
OFFICE,
LONDON STREET, NORWICH,
July 25th, 1888.

I hereby certify that I have made an exhaustive analysis of the Meat and Malt Wine prepared by Messrs. Coleman & Co., Limited, Norwich, with a view to determine chiefly whether it really contains an appreciable quantity of Meat Extract, and whether it is entitled to be classed as a suitable dietetic stimulant for invalids. The result of my analysis proves that it does contain a suitable proportion of all the most valuable principles contained in Liebig's Extract of Meat. It is well known to physiologists that this extract is not valued for the ordinary albumenoids (such as gelatine and albumen), which are, indeed, excluded to a large extent by the process of manufacture, but that its chief value, as shown by Baron Liebig himself, consists in its containing those essential principles peculiar to flesh, and which have a remarkable restorative power over the nervous system of invalids, thus rendering Liebig's Extract famous. In addition to these valuable substances the wine also contains a considerable quantity of Malt Extract, which is also well known and appreciated as an excellent restorative in cases of debility.

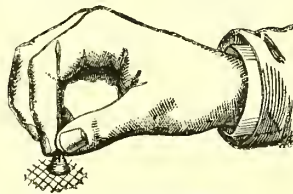
In addition to this the wine is of pure, natural quality, free from sophistication.

As witness my hand,
(Signed) FRANCIS SUTTON,
Public Analyst for the County of Norfolk, &c.

TRADE PRICES ON APPLICATION TO

COLEMAN & CO., LIM., NORWICH & LONDON.

Trade Mark.



Registered.

THE
ASSOCIATION for the SUPPLY of PURE VACCINE LYMPH,
12 FALM MALL EAST, LONDON, S.W.
SOLE AGENTS FOR DR. WARLWORTH'S CALF VACCINE.

Tubes, 2s. each; Half Tubes, 1s. each. Pomade in vials, 5s.
HUMAN VACCINE, from healthy children only, microscopically examined and source quoted. Tubes, two-thirds full, 1s. 8d. each; Tubes one-third full and Lancet-charged Points, 1s. each; Pin-points, 1s. 1d. each. Eighteen Charged Small Points, 5s. Tubes two-thirds full (same as those mentioned above, but without source), in quantities for export, 5s. per 100 Tubes. Pin-points uncharged, 1s. per dozen. Vaccinations daily, between the hours of 12 and 2, by the Consulting Physician, at the uniform fee of a guinea. P.O.O.'s (including postage, and crossed London and Westminster Bank), with orders, payable to
EDWARD DARKE, Secretary
Office hours, 10 to 4; Saturdays, 10 to 2.

DR. RENNER'S ESTABLISHMENT FOR
VACCINATION WITH CALF LYMPH,
186 (late 228) Marylebone Road, London, N.W.

VACCINATION FROM THE CALF DAILY FROM 11 TO 12 O'CLOCK

Reduced price of Calf Lymph (daily fresh).

Tubes	{ Large	2s. each, or 3 for 5s. 6d.
	{ Small	1s. " " 2s. 9d.
Points	{ Large	1s. " " 2s. 6d.
	{ Small	9d. " " 2s.
Squares	... ..	2s. 6d. each.

Registered Telegraphic Address—"VACCINE LONDON."

Sent on receipt of remittance addressed to the Manager of the Establishment. Discount to the Trade.

A N
IMPORTANT NOTICE
TO
THE TRADE.

We have now in Stock, ready for delivery to the Trade, some new designs in Show Cards, representing our Trade-marks, the upright Monk on one side, and the Horse Head and Shoe on the other. A portion of these are printed in Tints and the balance in twelve colours, and are considered by the best judges to be the finest productions ever turned out by that celebrated firm, Messrs. Mansell & Co., of Red Lion Square, E.C. These are from the original paintings now in our possession.

The Show Cards are particularly calculated for the best class of Chemists' Shops, and we trust the Trade will give these that prominent display which the quality of the work and the popularity of ST. JACOBS OIL demand. These, together with other original and attractive matter, will be sent forward to all dealers who sell ST. JACOBS OIL, carriage paid, on receipt of proper shipping instructions.

THE CHARLES A. VOGELER CO.
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Telegraphic Address—"RUMATIX LONDON."

Telephone, No. 6,714.

"THE MOST POPULAR NEW REMEDY." ANTIPYRIN !!!

In the post-card prize competition in THE CHEMIST AND DRUGGIST Antipyrin was by a large majority of votes pronounced to be "the most popular new remedy."

This is not strange, and is apparently the universal opinion of the Medical Profession and Drug Trade, for the reason that it combines the antifebrile properties of Quinine with the narcotic properties of Morphia, and the anæsthetic properties of Cocaine, also without the bad effects of either.

It is probably unequalled for the treatment of Neuralgia and Congestive Headache, in which an adult dose of from 2 to 5 tablets (10 to 25 grains) is equal to $\frac{1}{10}$ to $\frac{1}{15}$ grain of Morphia. Professor Germain See describes Antipyrin as "the remedy for sufferers and for pain."

It is most conveniently administered in the form of "Tablets," containing 5 grains each, which are composed of the pure drug only, and are more easily swallowed than round pills.

Prices—Antipyrin Crystals, 3s. 5d. per ounce. Tablets, in bottles of 25, 20s. per dozen; in bottles of 100, 70s. per dozen. Subject to usual Discount for Cash.

BURROUGHS, WELLCOME & CO., Wholesale Consignees, Snow Hill, LONDON, E.C.
Supplied by all Wholesale Druggists.

See Recommendatory Notice of Medical Press and Opinions of the leading Dermatologists.

WRIGHT'S

Of all Druggists, Wholesale and Retail, throughout Great Britain, Ireland, and Colonies.

From the *Lancet*, Dec. 22, 1886:—"In our hands it has been a most effective agent in skin diseases, especially of the chronic eczematous class, and one class of psoriasis which had resisted all other kinds of treatment speedily got well under the application of the *Liquor Carbonis Detergens*. We esteem it a very valuable addition to our list of skin remedies."

Kept in stock and sold by all Druggists (Wholesale and Retail) throughout the United Kingdom and Colonies. PROPRIETORS—

W. V. WRIGHT & CO., 48 Southwark Street, LONDON.

LIQUOR

CARBONIS

DETERGENS.

Extract from the Proceedings of the Royal Society of Edinburgh:—"Experiments on the Chief Disinfectants of Commerce, with a view of ascertaining their power of destroying the spores of the 'Anthrax Bacillus,' by a Medical Officer of Health and Public Analyst. A 10 per cent. solution of Liquor Carbonis Detergens, acting for four hours, distinctly retarded growth of Anthrax, for the spores, whether in gelatin-pork or in the broth, did not commence developing for 24 hours. Undiluted Liquor Carbonis Detergens, acting for four hours, arrested future growth."

The *Practitioner* of September, 1881:—"Eczema connected with varicose veins of the leg—also Pruritus Scroti, Labiorum, and Ani—is best relieved by weak tarry lotions, one of the best of which is *Wright's Liquor Carbonis Detergens*."

P. McLeod, Colonel R.A., Inspector-General of Ordnance, Ordnance Office, Madras, writes Sept. 10, 1887:—"I can certify that 'Liquor Carbonis Detergens' has cured me of a Psoriasis of 21 years, incurred in Burma, after every effort of such an able skin doctor as Sir Erasmus Wilson had failed."

From the *Medical Times and Gazette* Jan. 19, 1867:—"We have more than once called attention to the value of this remedy in chronic eczema."

From the *British Medical Journal*, Sept. 22, 1871:—"We have tested it, and can affirm its value as a detergent agent. We consider the Liquor is an article of great utility."

THE FINEST TABLE WATER IN THE WORLD.

NATURAL

WATER.

Johannis

NATURAL

GAS.

THE NEW, GERMAN, SPARKLING, NATURAL, MINERAL TABLE WATER.

An enemy to Gout and Rheumatism. A friend to Digestion and Circulation.

DELICIOUS PLAIN OR WITH WINES AND SPIRITS. IN BOTTLES WITH SCREW CAPSULES FOREIGN AND COLONIAL AGENTS WANTED.

JOHANNIS NATURAL MINERAL WATER COMPANY, LD., 5 Great Winchester St., LONDON, E.C.



THE GREAT VEGETABLE BLOOD PURIFIER

SWIFT'S SPECIFIC

KNOWN AND APPRECIATED THROUGHOUT THE CIVILIZED WORLD. ITS SUCCESS IN THE TREATMENT OF ALL DISEASES THAT RESULT FROM BLOOD TAIN OR BLOOD POISON HAS BEEN UNPRECEDENTED, THOUSANDS WHO HAVE BEEN GIVEN UP AS HOPELESSLY DISEASED, HAVING BEEN HEALED AND MADE HAPPY BY ITS HEALTH-GIVING PROPERTIES. IT

IS A REMEDY DISCOVERED BY INTUITION, AND FOUND, BY EXPERIENCE, TO BE INVALUABLE, OBTAINED, MANY YEARS SINCE, FROM THE CREEK INDIANS—ONE OF THE SAVAGE TRIBES OF NORTH AMERICA—ITS MERITS HAVE BECOME

Cures Scrofula, Eczema, Rheumatism, Old Sores, Cancer, Catarrh, Contagious Blood Poison, &c. AND CONTAINS NO MERCURY, IODINE, POTASH, ARSENIC, NOR ANY OTHER POISONOUS DRUG.

Books on Contagious Blood Poison, and on Blood and Skin Diseases, posted free.

SPECIFIC COMPANY

35 SNOW HILL LONDON. E.C.



ESTABLISHED 1859.

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Cheques or Postal Orders should be payable to EDWARD HALSE, and crossed MARTIN & Co.

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For Australasian subscribers the subsidiary journal THE CHEMIST AND DRUGGIST OF AUSTRALASIA is included.

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POST-CARD COMPETITION.—No. 9.

DESIGNS FOR A CHEMIST'S SHOP.

IN No. 8 competition we received a number of designs for “An Improved Ground Plan for a Small Pharmacy,” and as the subject is one which is capable of some development we propose to hold over those designs and to use them in the competition which we now announce. We ask now that subscribers or their assistants will, between this and September 30, send us on post-cards ground plans of a small pharmacy, or of any part of a pharmacy (dispensing department, poisons section, laboratory, storehouse, &c.), indicating the measurements if possible. The plans may be original designs, or the already executed ideas of competitors may be the bases of the sketches. The usual prize of one guinea will be awarded; but as we have taken out from No. 8 competition the cards which apply to this one, we shall give an extra guinea prize for the best sketch from among those thus removed.

THE ART OF DISPENSING.—This treatise will be published on Monday next, September 17. The book is a handsome octavo volume of 290 pages, and is strongly bound in black cloth gold lettered. It deals with the subject in a thoroughly practical way; many hundreds of prescriptions which illustrate the peculiarities and difficulties of dispensing

have been incorporated in the volume, and special attention has been given to the chapters on pills, suppositories, emulsions, abnormal mixtures, and the like. No pains have been spared to make the treatise the most complete work on the art of dispensing published in the English language. The price of the volume is 3s. 6d., or post free 3s. 10d. It may be ordered from wholesale houses and patent-medicine warehouses, who will invoice it at 3s. 6d. net., and send it with ordinary goods, thus saving the purchaser the price of postage.

CARBOLIC ACID DRINKING.—In consequence of the numerous suicides in Liverpool by drinking carbolic acid, the Health Authorities of Liverpool resolved on Thursday to memorialise the Privy Council to place carbolic acid under similar restrictions as other poisons, by making it compulsory on those selling it to label it “poison,” and to withhold its to children.

THE CHEMISTS' AND DRUGGISTS' DIARY, 1889.—Wholesale and manufacturing firms are requested to get their advertisements ready for our forthcoming DIARY, which is now in course of preparation. In consequence of pressing representations from Australian subscribers, we shall close earlier than before, so that space should be engaged promptly. This diary is now an almost universal desk companion of English-speaking druggists all over the world.

ACETIC ACID MANUFACTURE IN AMERICA.—Within the past few years the business of manufacturing acetate of lime, from the hardwood forests in the Sullivan, Delaware, and Broome counties, N.Y., has attained very considerable proportions, and there are now in the counties named thirty-nine factories, representing an investment of nearly \$3,000,000, each of which gives direct employment to about seventy-five men, and indirect employment, in cutting and hauling cord-wood, to twice as many more.

The Chemist and Druggist of Australasia.

AUGUST 1, 1888.

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Editorial Notes:—“The Centennial Exhibition,” “The Rules of the Pharmaceutical Society of New South Wales,” “The Pharmacy Act of Queensland,” “The Qualifying Age for Pharmacists,” “Wholesale Dealings in Poisons,” “Buying from Hawkers,” “A Vague Charge.”

COLONIAL REPORTS.

New South Wales.—Pharmacy Board (Official Report); Pharmaceutical Society (Full Report of Special General Meeting).

New Zealand.—Pharmacy Board of New Zealand, and Chemists' and Druggists' Association, Auckland; The New Zealand Customs Bill; Claim for 400l. Damages for the loss of an Eye; Trade Topics, &c.

Queensland.—Pharmacy Board (Official Report); Use of Queensland Plants.

South Australia.—Monthly Council Meeting of Pharmaceutical Society; Progress Regarding Pharmacy Bill; Omissions of Errors in Pharmacy Act; Trade Topics, &c.

Victoria.—Pharmacy Board and Pharmaceutical Society; General News.

Correspondence.—Our Wholesale Supplies; Bee-keeping for Pleasure and Profit; The Loofah.

Trade Notes; Poisoning Cases; Patents and Trade Marks applied for, &c.; Insolvencies, &c.; Births, Marriages, and Deaths.

(Copies may be obtained at the London Office, 42 Cannon Street, E.C., 6d. each, or the journal will be supplied to extra-Australian subscribers at 5s. per annum.)

Metropolitan Reports.

DEATH FROM CAMPHORATED CHLOROFORM.—Mrs. Florence Jennie Jones, the wife of a grocer, of 95 Maple Road, Penge, aged 30, was found dead in bed one morning last week, and the evidence showed that she had died from the effects of camphorated chloroform, inhaled as a remedy for toothache, from which she greatly suffered.

WILSON v. LAMBERT.—This case was heard at the City of London Court on Monday, before Mr. Registrar Speechly. The defendant, S. H. Lambert, dealer in drugs, &c., of 132 Fenchurch Street, disputed a claim for 5*l.* wages unpaid on June 30, 1838. The learned registrar made an order against the defendant for the amount claimed and costs.

ATTEMPT TO MURDER A CHEMIST IN WHITECHAPEL.—At the Thames Police Court on Monday William Seaman, builder, of 11 Princes Street, Whitechapel, was charged with attempting to kill John Simkin, chemist, of 82 Berner Street, Whitechapel. Charles McCarthy, labourer, stated that about twelve o'clock on Saturday night he heard a scream in Berner Street. He went into Simkin's shop and saw his white beard covered with blood. He was behind his counter, and the prisoner was standing in the shop. Mr. Simkin said to witness, "Here is the hammer he hit me with," and gave it to witness. The prisoner made no attempt to escape and made no remark. The police took him into custody. A constable said the prosecutor was dangerously injured. When he arrested the accused he said, "I shan't tell you what I did it for; but I will tell the magistrate." He had been drinking. Mr. Saunders ordered Seaman to be remanded.

BURGLARY.—A rather daring burglary was successfully attempted on Wednesday night, the premises attacked being the pharmacy of Messrs. Shirley & Son, Westbourne Grove. It would appear that the thieves had secreted themselves in the cellar before the shop closed on Wednesday night, and as soon as everything was quiet they found their way out, and after visiting an assistant's bedroom in order to find the key of the shop hall door, which they did not get, they proceeded to effect an entrance forcibly. This they accomplished. Then they made a search for the safe key in the drug drawers, and after ransacking a score of them found the key, opened the safe, and removed from it cheques and money to the value of over 50*l.* The till "residues" were also removed, the thieves regaled themselves with lemonade, helped themselves to some useful clothing, and decamped. Evidently they knew the premises well, and the detectives hope to make their acquaintance ere long.

FATAL ACCIDENT AT CHEMICAL WORKS.—In the City of London Court on Tuesday the case of "Layton v. Miller & Johnson" was tried before Mr. E. T. E. Besley (Deputy-Judge) and a jury. The action was brought by Mr. Wm. R. Layton, of Rainham, Essex, to recover compensation for the loss of his son, who was killed whilst in the employment of the defendants, Messrs. Miller & Johnson, chemical manufacturers, Rainham, and Mark Lane, E.C. Mr. Ruegg was counsel for the plaintiff, and Mr. T. T. Fillan for the defendants. It seemed that in March last the plaintiff's son, William John Layton, who was nineteen years of age, was in the employment of the defendants at their wharf at Rainham Ferry. On the 20th of that month, in the early morning, while at work at the wharf, which is by the side of the river Thames, the boiler in connection with the steam crane which was used for the purpose of raising and lowering goods exploded with such terrific force that the plaintiff's son was literally blown into the river and was killed. Whether he was killed by the force of the blow or through drowning was not known. He received 18*s.* per week, 9*s.* of which he gave to his father in support of the home, and it was for the loss of that and other pecuniary support that this action was brought for compensation under the Employers' Liability Act. For the defence Chambers, the foreman of the defendants, said the plaintiff's son had no right where he was when the accident occurred. His work was some distance from the place. He (witness) had charge of the engine, but had no control over the deceased, who was in the employment of a sub-contractor named Hockley. This, however, was denied. After an exhaustive hearing the jury

found for the plaintiff and awarded him 40*l.* damages Judgment was accordingly entered for the plaintiff for 40*l.*, with costs.

JOHN BARKER & Co.—This firm of drapers in High Street, Kensington, have recently established a drug department, and they now publish a patent medicine and drug price list, to which is added a section containing "alphabetically arranged medical and surgical hints and information." In introducing themselves as chemists and druggists the firm say: "For many years past the residents of Kensington and the district have been obliged to pay a higher price for prescriptions than the cost of drugs justified. But, from want of space and our inability as private traders to comply with the regulations of the Pharmacy Acts, we have hitherto been unable to provide what the public so much needed. We have now, in conjunction with others, and in order to meet the requirements of the Pharmacy Acts, formed a joint-stock company, for the purpose of carrying on the business of chemists and druggists on a large scale, and of making up prescriptions on the system of small profits, which has made us what we are in other branches of trade. A responsible manager is employed, together with a staff of duly qualified assistants, and these alone will have charge of the dispensing department. Prescriptions are made up and drugs supplied at about half the usual prices of retail chemists. No drugs or chemicals are sold except the purest and best; and our sale being quick, they may be relied upon at all times as being fresh as well as good. The greatest care is observed in the preparation of prescriptions, and there is unusual promptitude in making them up. We confidently rely on the public to support us in this further development. It is a step in advance from which they may, if they choose, derive great benefits." Some of the Kensington chemists seem to think that Messrs. Barker & Co. have broken the law either in not registering themselves under the Company's Act or else in not describing themselves as limited. But it appears that they are registered, and particulars of the registration were published by us on August 4. But they are not registered with limited liability. It does not appear that they infringe the law as it is at present interpreted.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

BIRMINGHAM.

WHY REMAIN IGNORANT?—A University man advertises in a local paper that he gives lessons in elementary French, German, Latin, botany, chemistry, zoology, mathematics, reading, writing, composition, logic, memory, &c., at 6*d.* per hour. Lewis can't beat that.

CRICKET.—The return match, Married v. Single, will be played at the Langley Cricket Ground, near Small Heath Park, on Wednesday next, Sept. 19. Wickets will be pitched at 2, and play will begin at 2.30 prompt. Members and their friends, including ladies, are invited.

COUNCILLOR BARCLAY.—Mr. Councillor Barclay (of the firm of Barclay & Southall) retires by rotation as a representative of St. Thomas's ward in the town council on November 1 next. It is stated that Mr. Barclay's re-election will be opposed. Mr. Barclay has recently issued a very interesting and valuable pamphlet on the water supply of Birmingham.

MIDLAND COUNTIES CHEMISTS' ASSOCIATION.—A meeting of the council of the association was held on September 6 at the Grand Hotel, Colmore Row, under the presidency of Mr. Perry. A discussion arose as to the location of the books of the association, and the place of meeting during the ensuing session. No decision was arrived at, but we understand that the council are in negotiation with the authorities of Mason College with the object of obtaining a room at the college for the monthly gatherings of the society. The session commences next month.

WAS HE QUALIFIED?—At a chemist's shop not many miles from Balsall Heath was presented the following recipe to be dispensed:—

Oil of amber	1 oz.
Oil of turpentine	1 oz.
Olive oil	1 oz.

and the assistant, after putting it together, was asked if it was good for whooping-cough. He said that it was, and labelled it "The cough syrup." On the strength of this information, a small child would have received the usual teaspoonful had not a friend suggested that it was only intended for external application.

BOLTON.

AN UNEXPLAINED DEATH AT THE INFIRMARY.—A girl named Ann Blinkhorn, aged 12, has died at the Infirmary, and the doctor having refused to give a certificate an inquest has been held. The girl was under treatment for a bad knee, and the girl's aunt makes various complaints of inattention against the senior house surgeon and one of the nurses, and against the rules of the institution generally. The aunt visited the girl and gave her a date and some sweets, and it is suggested that these may have caused the death of the girl. The remaining sweets and the contents of the stomach are to be analysed by Dr. Brown, of Liverpool.

BUXTON.

A COUGH MIXTURE AND A SINGULAR DEATH.—Some strange evidence was given at an inquest held here before Dr. Robert Bennett, coroner, on Friday last, on the body of G. E. Sturgess (19), son of Wm. Sturgess, grocer, of High Street. The father stated that his son had been troubled with a cough, and on Tuesday night he went for Dr. Dewar, who examined deceased, and gave witness a bottle of medicine, placing a label upon it directing the medicine to be taken two tablespoonfuls every two or three hours. Two doses were given that night, and deceased slept well. Another dose was given the next afternoon. After a while he complained of dimness of sight and palpitation of the heart. He appeared to go on in a similar way until between six and seven p.m., and then witness's daughter noticed that he looked peculiar. The mother tried to arouse him, but failed. Dr. Dewar was sent for, as also Dr. Haslewood, both of whom were out. Dr. Lorimer came and endeavoured to arouse the deceased, but failed. A few minutes afterwards Dr. Dewar arrived and tried to arouse the deceased. The two medical men then held a consultation, and upon coming in said, "He will die. The thing is painful to you, but it is experience and practice to us." After Dr. Dewar left Dr. Haslewood came and did all he could, but death resulted about eleven the next morning. The coroner pointed out that from the bottle produced nearly six doses had been taken instead of three. The witness added that when Dr. Dewar came in a second time he was in a state of intoxication, and sat down in front of his boy, and Dr. Lorimer, who was with him, got talking to him. Dr. Lorimer went away, and Dr. Dewar said to deceased, "Jack, open thi' mouth," and he was as much like talking to this table. "If you don't," he said, "I will smash your jaws. I am a strong man, and will tear your jaws open." (Sensation.) The coroner observed that this was very painful, but it did not cause the death. If such an occurrence took place it was exceedingly improper. It was a want of the feeling, and kindness, and courtesy which they generally met from medical men. The doctor might have behaved improperly, but the jury had nothing to do with that. Did he prescribe things which produced death, or did he, in neglect, allow that lad to die? Dr. Haslewood said Dr. Dewar told him that he had prescribed an 8-oz. mixture containing 2 drachms of chlorodyne. According to the bottle produced only about $\frac{1}{2}$ grain of morphia had been taken in twenty-four hours. The Coroner: Without the deceased had an idiosyncrasy with regard to the morphia, he could not have died, under the circumstances, from that drug? Dr. Haslewood replied that was so. In reply to the jury, witness stated there were some people whom a smaller dose than this would kill. He knew a lady whom $\frac{1}{4}$ of a grain of opium would possibly kill. Dr.

Dewar said he prescribed 2 drachms of chlorodyne to 8 oz. of water, and two tablespoonfuls for a dose every two or three hours, until the symptoms were relieved. He virtually told the father to discontinue the medicine as soon as the symptoms were relieved. On the night of the 5th he found deceased in a state of coma. The Coroner: Did you consider he was suffering from morphia poisoning? Witness: Well, that was an open question. The symptoms could be easily accounted for by narcotic poisoning or brain disease, but I give no opinion of the cause of death. The jury returned a verdict that "death was due to narcotic poisoning, owing to deceased being subject to an idiosyncrasy, and accelerated by double doses being administered."

COVENTRY

ALLEGED FRAUD ON MESSRS. WYLEYS.—At the City Petty Sessions on Monday, Samuel Bowker, a venerable-looking man, of Chorlton-on-Medlock, Manchester, was charged on remand with obtaining goods of the value of 82*l.* by false pretences from Messrs. Wyleys & Co., wholesale chemists, of that city, with intent to cheat and defraud. Mr. Montague Wilks prosecuted, and Mr. Evans, of Manchester, defended. Mr. Wilks in his opening speech said it was upon the faith of statements made by the prisoner and his son that they were about to open a shop at Pateley Bridge that the goods were supplied. On one of the prisoner's memorandum headings he was described as of the "Yorkshire Laboratory," it being stated that "analyses were made—terms on application to Bowker & Son, family and agricultural chemists, produce and general merchants, Bridge House Gate, Pateley Bridge, *via* Leeds." So that in addition to the statements of the prisoner and his son, Messrs. Wyleys had that memorandum heading before them when the goods were supplied. Within one week of their delivery the goods were sent off to Manchester, and within three days of that taken to a Mr. Ferguson, a money-lender, from whom the prisoner received a loan of 20*l.* upon them. He submitted that the prisoner's statement that he was about to open a shop was a false pretence, that he never intended to open a shop at all, and that he wished simply for the goods in order to get what money he could upon them. He should prove that at the time Mr. Bowker was in a state of desperate poverty. He should also prove that Pateley Bridge was only a small village with 1,000 inhabitants, in which there was already an old-established chemist's shop, and he should submit that a sufficiently grave case had been made out to warrant the Bench in committing the prisoner for trial. Richard H. Merrett, agent in the Manchester district for the prosecutors, deposed that on June 4 he went to New York Street, Chorlton, to see Mr. Samuel Bowker, who had written to the firm. He did not find him, but saw him by appointment at the Royal Hotel, Manchester, on the 6th. Prisoner then told him he was about to open a chemist's shop at Pateley Bridge, near Leeds, but the place was not yet ready. He said he wanted the goods ordered from Messrs. Wyleys to stock the shop. Pateley was, he said, a town some distance from a chemist's shop, and there was the probability of his doing a good business there. The goods were sent, but witness had called at New York Street since without being able to see the prisoner. The last week in August he went to Mr. Ferguson, money-lender, Stockport Road, Manchester, and there saw hampers and bags of drugs, which he believed belonged to the prosecutors. Cross-examined: Prisoner told him that he used to be in business in Deansgate, Manchester. Mr. W. F. Wyley, J.P., a member of the prosecuting firm, corroborated part of the last witness's evidence. Witness admitted that the firm had previously done business with Bowker & Methun, Manchester, Bowker being, he believed, the same man as the prisoner. Many years ago he believed the firm also did business with a man named Bowker, Mayor of Manchester. Mr. Evans: Prisoner's brother was Mayor of that city in 1866. In further cross-examination, Mr. Wyley said he had not heard that Messrs. Curtis of Leeds had contracted to fit up a shop at Pateley for prisoner for 64*l.* 10*s.*, but he had heard that they had been fortunate enough to get their fixtures away. A North-Eastern Railway clerk proved the receipt of the goods and other consignments for Bowker & Son at Pateley, and their delivery to one J. Peacock at a lock-up shop there; and he further proved that a week after they were sent by Peacock to Bowker,

& Son, Manchester. George Ferguson, bill discounter and money-lender, Manchester, proved that after seeing Messrs. Wyley's invoice he advanced the prisoner 20% on the goods. He had previously had transactions with Bowker. Cross-examined, he said on a previous occasion Bowker had redeemed goods on which he had advanced money. Inspector Golby said he arrested prisoner in Market Street, Manchester, and, in reply to the charge, he said he did not know why the prosecutors had taken the course they had. He had but one shilling on him and several pawntickets for small articles of wearing apparel. This closing the case for the prosecution, Mr. Wilks asked for a further remand, to enable him to call evidence from Hull and London to prove contemporaneous transactions on the part of prisoner. He named Mr. Hunter, of Hull, and Mr. Holkinson, of London, as able to prove similar cases against prisoner. Mr. Evans objected to fresh charges. Mr. Wilks said he should subpoena these gentlemen as witnesses. Mr. Evans submitted that the prosecution had not made out the charge, but the Bench thought a *prima-facie* case had been made out, and committed the prisoner for trial at the Quarter Sessions.

HANLEY.

THE TOWN COUNCIL AND THE SOMERSET HOUSE LABORATORY.—A sample of lard, purchased at 5*z.* per lb., had been bought in July last, and had been submitted to the borough analyst (Mr. Baines), who had pronounced it to be pure. On the suggestion of Mr. Bradford, one of the councillors, who believed it was impossible that pure lard could be sold at 5*z.* per lb., a sample was sent to Somerset House. But after some correspondence Mr. Bannister, the Deputy-Principal of the Laboratory, wrote to the Town Clerk as follows:—

Inland Revenue Laboratory,
August 3, 1888.

SIR,—In reply to your letter of the 27th ult., informing me that the sample of lard is not referred here by the magistrates under the Food and Drugs Act, I beg to inform you that a private analysis scarcely comes within our province as Government analysts. We are always anxious to oblige the council of any borough or other official body; but on the other hand we cannot unduly interfere with the rights of the official analyst by doing work which really belongs to him.

Mr. Bradford consequently moved at the last meeting of the council that the sample should be referred to Mr. Jones, the county analyst, but his proposition was defeated by a considerable majority.

OLIVE OIL AND COTTON-SEED OIL.—On September 6, at the Police Court, Robert Featherstone, chemist and druggist, Market Square, Tunstall, was charged by Mr. Knight with having sold on July 19 an article which was not of the nature, substance, and quality demanded. It was stated that the inspector's assistant visited the defendant's shop, and asked for a pint of olive oil, for which he paid 1*s.* The article supplied was submitted to the county analyst, who certified that it was not olive oil at all, but pure cotton-seed oil. Mr. A. P. Llewellyn, who appeared for the defence, stated that the defendant had purchased for stock both olive oil and cotton-seed oil, and that he failed to supply to the inspector the article demanded, either because the wholesale house had sent cotton-seed oil in mistake for olive oil, or because his assistant had made the mistake when obtaining the shop supply from the warehouse of drawing the oil from the wrong vessel. In the course of a discussion it was stated that cotton-seed oil was used very largely in the district for frying fish, and there was little difference in appearance between cotton-seed and olive oils. The inspector said the substitution of the former for the latter was an injustice to the purchaser, as olive oil was sold at the rate of 8*s.* per gallon, while cotton-seed oil was less than 3*s.* The Stipendiary said the defendant sought to explain the matter in two ways, but in either case he was liable. A fine of 40*s.* and 19*s.* costs was imposed.

LIVERPOOL.

THE CARBOLIC ACID ANTIDOTE.—A correspondent writing to a local paper deprecates the efficiency of soap as an antidote for carbolie acid, and suggests the use of the stomach-pump, quoting an instance in which life was saved

by its use. As a useful preliminary to the use of the pump might be suggested the drinking of a quantity of olive oil, to which a few drops of liquor potassæ have been added.

TIPPING THE DOCTOR.—The proceedings of the last meeting of the Liverpool Hospital Committee contained a recommendation to pay an honorarium of 25 guineas to Dr. Hope, who resigned his office as visiting physician to Parkhill Hospital, the gift being for the extra work he had with fever patients during the last nine months. Mr. F. Smith moved an amendment that the recommendation be omitted, and Mr. J. Morris seconded, but the amendment was lost by twenty-one votes to eight.

THEY WILL HAVE IT.—At an inquiry held on September 6 into the circumstances attending the death of Mary Alice Murray, a verdict of "Suicide while in a state of temporary mental derangement" was returned. Carbolie acid was again the means used for the end. The coroner remarked that whilst he felt these cases were very frequent, he could not say that he had any special remedy to suggest. However the sale of this poison were fenced round, means would be found by those who wished to obtain it.

ANOTHER SUICIDE BY CARBOLIC ACID occurred on Tuesday. Bridget Walsh, a widow, Prince Edward Street, who had been drinking heavily, and had got into a low state, was found dead by her daughter, with an empty bottle, labelled "Carbolie acid—Poison," by her side. At the inquest held on Tuesday it appeared that the acid had been got from Mr. Nelves, a chemist, the woman stating that she was cleaning offices and wanted it to get rid of smells. Mr. Nelves cautioned her as to its nature, and put two labels on the bottle. The jury commended Mr. Nelves for the care he had exercised.

THE LIVERPOOL HOUSEHOLD STORES.—The extraordinary general meeting of the shareholders of the above association, held on Tuesday last in the Law Association Rooms, Cook Street, passed almost unanimously the resolution to reconstruct and wind up voluntarily. The terms of the reconstruction were also agreed. A meeting to ratify the above resolution is still necessary, which according to law must be called not sooner than a fortnight and not later than a month.

A YEAR'S INQUESTS IN LANCASHIRE.—During the year ending May 31 last, 565 inquests were held in Lancashire; the salaries of the coroners amounted to 1,366*l.* 19*s.* 6*d.*, and their expenses to 1,999*l.* 17*s.* 3*d.* The total expense connected with the 565 inquests was thus 3,366*l.* 16*s.* 9*d.*, of which amount one gentleman, Mr. S. Brighthouse, the West Derby coroner, received 2,142*l.* 2*s.* 4*d.* The number of miles travelled by the coroners in pursuit of their duties was 3,234.

INVISIBLE LABELLING NOT SUFFICIENT.—Insufficient labelling of margarine exposed for sale was the charge brought, under the Margarine Act, against Samuel Hughes, of 9 Roe Street, who appeared on September 5 to a summons at the instance of the Sanitary Committee of the Corporation. Mr. Moss conducted the case for the complainant, and Sanitary Inspector Baker proved the charge. On August 11 the officer had seen in defendant's window four cases of margarine which seemed to have no label upon them. On his pointing out the deficiency to the defendant, he showed the officer a label, the lettering on which was of the same yellow colour as the article exposed for sale, and of course quite invisible to the purchaser. Mr. Moss said he had looked at the label by gaslight, and found that it was quite invisible at a distance of two feet, unless looked at from a certain angle. Mr. Raffles asked the defendant why he did not have the letters made black, when the reply was that when the officer objected to it the margarine was removed. Mr. Raffles: Don't do it again, or I shall convict you.

LARD ADULTERATION.—A summons case was heard in which Mr. James Warr was defendant as Official Receiver of the late Robert Stewart's estate. The information was supported by Mr. Moss, and Sanitary Inspector Baker's evidence showed that on July 26 he had visited the shop, 31 Fox Street, and asked for 12 lbs. of lard. The assistant who served him said he could not sell it to him as pure lard, and the officer agreed to accept it as watered lard. When officially analysed, the sample was found to contain, in addition to 14½ per cent.

of water, upwards of 15 per cent. of fats other than lard. The water, of course, the prosecution did not take notice of, their complaint having reference only to the 15 per cent. of matter other than lard. Defendant explained that he was only agent and receiver for the shops, which were now in Chancery, and the manager had not sold the lard as pure but as watered lard. Mr. Raffles: But it is not only watered; there is 15 per cent. of something else in it. The Defendant: Of course that is the maker's fault. Mr. Moss: If you have a guarantee from them that it is pure lard, you will get back the fine. The Stipendiary imposed a fine of 10s. and costs.

SWANSEA.

DRUG STORES is a title which seems to be growing in favour. Some two years since Mr. J. Atkins called his house of business in Wind Street the "Swansea Drug Stores," and commenced to reduce the prices of patents and proprietary articles. A few weeks since a new establishment, under the title of the "Cambrian Drug Stores," the proprietor of which does not exhibit his name or qualifications, was opened; and Mr. John Davies, High Street, has now more modestly adopted the title of the "West Glamorgan Drug Stores" for his business. Some years ago we were advised to describe our shops as pharmacies; but there seems to be a fear that the public will understand that title to mean high prices, while the term stores is supposed to be synonymous with cheapness.

WORKSHOP.

BENZOLINE ON FIRE.—On Saturday a boy was seen running across Victoria Square with his clothing in flames. Two or three men caught him, and throwing him on the ground, tore off part of his clothes and damped out the fire with a coat. Attention was then directed to the shop of Mr. George Baxter, chemist, from the cellar of whose premises a dense volume of smoke was proceeding. The shop was full of smoke, while the assistant, Mr. Wilkinson, was busily engaged in fastening up the doors which lead from the shop to the cellar. The street grate was pulled up, and several men, getting down, found a large blaze in the cellar, and it was evident from the smell that benzoline was on fire. The crowd handed buckets of water into the cellar, and these were thrown on the flames, which had set fire to the joists of the shop above. Bags dripping with water were also thrown on the flames, and these were of greater service than the buckets of water. The boy had been sent to fill the reservoir of the patent measure which is in use there, and had accidentally fired the oil.

IRELAND.

BELFAST.

CARBOLIC-ACID POISONING.—At the Royal Hospital here on September 7, a young man named James Jeffers, 23 years of age, an in-patient, suffering from chronic abscess, was poisoned by carbolic acid under peculiar circumstances. The physicians attending him had prescribed "black draught." About 7.30 P.M. Miss Martha Torrens, probationary nurse, proceeded to administer the medicines to the patients, and upon giving a glass of a black decoction to Mr. Jeffers he drank a portion of it, and exclaimed that he had got the wrong medicine. Miss Torrens replied that this could not be the case, and being apparently incredulous, tasted the liquid herself. Discovering that what the patient said was true, she ran in an excited state for Dr. McQuitty, the house surgeon. Dr. McQuitty, assisted by Dr. Henry O'Neil, used every effort, but the man died before nine. The bottle from which the poison was taken is a round glass one, with a glass stopper—not a fluted poison bottle—and capable of holding about a pint. It is labelled "Mulholland Wing. Carbolic acid—crude. Name—Poison," and there is space for the date, which had not, however, been filled in. The measuring glass holds about 3 oz., and had been quite full when handed to deceased. He drank, it is supposed, about half an ounce. It is a custom in the hospital every evening for medicines compounded in the surgery to be placed upon wooden trays, there being a tray provided for each ward. These trays are given

to the nurses in charge of the wards. The carbolic acid was, it is alleged, placed yesterday evening upon Miss Torrens's tray, but the dispenser states that it was placed on the Mulholland tray. Carbolic acid is used for disinfecting purposes, and this particular bottle was intended for the water-closets of the Mulholland Wing at the opposite end of the building, and was labelled "Mulholland Wing." How it found its way to the Charters Wing (where Jeffers lay) is a mystery which has yet to be cleared up. The dispenser in the hospital, Mr. McDade, asserts that he placed the bottle on the Mulholland tray, and nobody can at present say how it got transferred to the other. Miss Torrens, it is said, had the reputation of being an extremely careful nurse. She is very ill herself from the effects of the poison she took, and the inquest on Jeffers has been adjourned for a fortnight. She was very attentive, we are told, to her patients, and appeared to take a personal, and even affectionate, interest in their welfare. If she had not informed the doctor that she partook of the carbolic acid it is believed she would not have survived. She was in such a fearfully anxious state about the mistake that had been made that she said nothing about taking the acid herself until after the antidotes had been administered to Jeffers. As soon as she told Dr. McQuitty that she had tasted the poison he treated her in a similar way to the other patient. Although she had felt herself burning terribly inside, her attention was so directed to the unfortunate victim that she did not until it was almost too late make known her condition.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on Wednesday, September 5.

Present:—The President, Mr. James E. Brunker, M.A., in the chair; Vice-President (Mr. Draper), Messrs. Hodgson, Wells, Dr. Montgomery, Dr. Collins, Charles Evans, Grindley, Allen, and Dr. Tichborne.

The following letters were read:—From Mr. John Evans, thanking the Council for having re-elected him Examiner in Pharmacy; from the Curator of the Technological Museum of New South Wales, acknowledging receipt of a copy of the Society's Calendar for 1883; from Mr. John Gilbert, of 120 Patrick Street, Cork, asking that his son, who would not be sixteen years of age until October 4, might be permitted to appear at the examination on October 1.

On the motion of the VICE PRESIDENT, seconded by Dr. COLLINS, it was resolved to permit Mr. Gilbert, junior, to appear at the Preliminary examination, as he would only three days later arrive at the qualifying age.

Dr. MONTGOMERY suggested that in future copies of the examination papers should be laid on the table at the first meeting of the Council after each examination.

Dr. TICHBORNE: Would they not come better along with the reports of the examiners which are presented at the meetings following the examinations?

The PRESIDENT said he had a few words to offer as to the present position of the Pharmacy Act Amendment Bill. When they met last month they were not aware of the fact that the Bill had been actually put down for second reading in the House of Commons. It had since been read a second time, and was down for committee stage on August 9. He had held himself in readiness to go over for committee, at Messrs. Clay & Close's request, but it was thought advisable by their agents to postpone the committee stage until the adjourned session. That stage was now fixed for November 14, when he hoped the Bill would substantially get through. They were quite prepared to accede to any reasonable suggestions as to amendments that would not be inconsistent with the principles or efficiency of the Bill.

On the motion of Mr. ALLEN, seconded by Mr. WELLS, a report of the Law Committee was adopted.

On the motion of Mr. WELLS, seconded by Mr. GRINDLEY, the certificates for the candidates for the licence who had passed the examinations were ordered to be sealed.

New members of the Society having been elected the Council adjourned.

FRENCH PHARMACEUTICAL NEWS.

THE COUNT DE VILLENEUVE, for the moderate sum of 30,000*fr.*, has succeeded in satisfying all the victims of the mysterious Hyères poisoning cases, who brought forward claims for damages. On September 6 a general meeting was held at which all those interested were represented, and by a large majority the offer of the count's attorney was accepted, and a committee was appointed to distribute the amount among the claimants. It will, no doubt, be remembered that nearly the whole village had been poisoned by wine of M. de Villeneuve's production, that arsenic was detected in the liquid, and a keg of the same poison was traced to the count's possession. How the arsenic found its way into the wine still remains a mystery.

STRYCHNINE FOR SANTONIN IN CORSICA.—Last week a carter named Valli called at M. Rocassera's pharmacy, at Sartène, for some santonin to be given to his children. The pharmacist was absent on an official inspecting tour of the arrondissement pharmacies and drug stores, and a temporary assistant, by mistake, dispensed strychnine instead of the vermifuge asked for. On going home the carter gave the powder to his wife, who proceeded to dissolve it in milk and give it to her five children. Three of them took their dose quietly, but the fourth, a boy aged 11, struggled so hard that he upset the remainder of the potion, and thus saved the life of the fifth child, a girl aged 13. The four children, although treated at once, soon expired. Here is an inspector's pharmacy much in need of inspection.

SALICYLATED EGGS.—M. A. Lambert, the pharmacist-in-chief of the Bron insane asylum, near Lyons, is of opinion that, notwithstanding all orders and decrees, the use of salicylic acid as a food preservative is as prevalent as ever. Lately he discovered the poison in eggs, the last diet article, perhaps, where it could have been suspected. Dealers in salicylic acid, it seems, claim that their product is as efficient as lime for preserving eggs, and yet imparts no unpleasant flavour, while at the same time the acid does not penetrate through the shell, but simply acts as an antiseptic on the egg surroundings. Whatever may be the truth of some of the assertions, certain it is that salicylic acid does penetrate through the shell, and soon permeates both the white and the yolk. To detect the adulterant in the white, the albumen is to be beaten with a little water, and on the liquor being acidulated and shaken with ether salicylic acid may be easily identified by the usual tests. The same process answers for the yolk, but it must be first coagulated by heat to avoid the formation of an oily emulsion difficult to manage.

THE CHOLERA VACCINE.—Dr. Ferran, of Barcelona, in a letter written to M. Pasteur, as Secretary of the Academy, has emphatically claimed priority over Dr. Gamaleïa in the discovery of the principle announced at the August 20 meeting. The preservative effect of the heat-sterilised virus, he said, was discovered by him as long since as 1834-85, and therefore he alone is entitled to the 100,000*fr.* Bréant prize. It may, perhaps, be remembered that during the epidemic of 1834-85 Dr. Ferran made so much noise about his discovery of a cholera-remedy that a French Commission was sent to Spain to investigate it and report. But the doctor kept very secret his process. He was willing to allow the commission to watch the results of his inoculations, but would never tell them how he prepared the injected liquid. It is hardly necessary to say that the Academy Committee returned home with no good opinion of Dr. Ferran, and very nearly called him a quack. Indeed, under the circumstances, it takes some boldness to now bring forward such a claim to the Bréant prize. As regards the vaccine process itself, whether Dr. Gamaleïa or Dr. Ferran be the discoverer of the principle which forms its basis, it may be remarked that the inoculations having been so far performed only on animals, it is slightly premature to fight about the coveted reward.

"I DON'T see why they call it *vase line*," said Jones. "It's more like fat."

THE average quantity of salicylic acid necessary to be added to pure grape wine to prevent further fermentation is about 1 oz. to 75 gallons.

GERMAN PHARMACEUTICAL NEWS.

(From our Berlin Correspondent.)

BRUNSWICK PHARMACIES.—Some time ago I told you that in Brunswick licences had been issued to only four chemists, and that these concessions, while enabling the holders to practise pharmacy there, also included a prohibition of any increase in the number of pharmacists. It will also be remembered that a sum of about 13,000*fr.* was offered to the privileged quartet as a compensation for violating the terms of their ancient agreement. The difficulty has now been so far settled that the Government is to grant five additional licences, which will be terminable with the life of the actual recipient, while during twenty years each of the five new-comers is to pay 700*fr.* in equal yearly portions. This is a kind of pharmacy-on-the-hire system, "weekly payments taken," which will probably seem a little ludicrous to English minds.

DRUGGISTS AND APOTHEKERS.—A case illustrating the severity of the regulations that define the limits of the business of a licensed pharmacist from that of the member of the same calling who, perhaps with similar qualifications, has not obtained the coveted concession, has been heard in this city. A druggist who was fully qualified sold some iron pills for *anæmia*. According to the law, compound medicines such as this may only be sold in an "apotheker." The same druggist had been charged with a similar offence five times before, and the public prosecutor urged that the case could no longer be adequately met with a fine, and asked for a sentence of a week's imprisonment. The druggist pleaded that he had nearly completed arrangements for purchasing a licensed business in which he would be enabled to practise his profession without being amenable to prosecution, and pointed out how severe a punishment the incarceration would be. The court took a merciful view of the case, and informed the druggist that a chance would be given him for the last time, by making the sentence a fine once more, adding that if he appeared again on a similar charge there would be no alternative to keeping him for a time "in *durance vile*."

HYDROGEN PEROXIDE HYPODERMICALLY.—Dr. Reichert has used hypodermic injections of peroxide of hydrogen against carcinoma in such organs as he could reach by that means. He uses solutions of 0.005 grain in 1,000 of water, and later, 0.2 grain in 1,000. This ozone water also contained about 3 or 4 grains of chlorine in 1,000, and the doctor used it with good results in two cases. He suggests that it be further tried.

BISMUTH SALICYLATE exists in both acid and more or less basic compounds. It is recommended in chronic disease of the stomach in doses of from 6 to 15 grains several times a day. A more basic salt than those hitherto used has now been brought out, which has the formula $\text{BiOC}_6\text{H}_5\text{O}_3$, and contains bismuth equivalent to 64.2 per cent. of oxide (Bi_2O_3). The preparation is distinguished from the other salicylates in being entirely free from nitrate. It is only very sparingly soluble in water, but sufficiently so to react with solution of ferric chloride. Dry chloroform does not extract any salicylic acid from it, nor does diphenylamine give a blue coloration with it. The manufacture of this constant and pure preparation may be regarded as an advance.

SNAKE-POISONING AND STRYCHNINE.—Strychnine is one of the latest antidotes for snake-poisoning. Virchow's *Archiv* quotes a letter from Dr. Müller, of Yackandandar, in Victoria, Australia, to Baron Ferd. von Müller on the subject. He says that after considerable study of snake-poisoning and its symptoms, he came to the conclusion that the only reliable antidote was strychnine, a remedy which he employed with great success in several cases of snake-bite in Australasia. He purposes to send particulars to Dr. King (and has by this time doubtless done so), so that he may try the method in India. If he also finds it efficacious, Dr. Möller will be able to secure the reward which is offered by the Indian Government for a reliable antidote for poisoning by the ophidian family. The sum is stated to be large enough to enable the recipient to live in comfort for the remainder of his days.

THE GERMAN APOTHEKER VEREIN.

(From our Berlin Correspondent.)

THE German Apotheker Verein held its annual meeting on September 11 and 12.

This body was formed by the union of the societies of North and of South Germany in 1872 subsequent to the birth of the united Empire. In its objects it differs somewhat from the British Pharmaceutical Society, as it has no control over the examinations, nor any interest of a political character; it has more the nature of a private institution. It is mainly designed to further the progress of pharmacy both from the scientific and commercial standpoints, and to protect the interests of the followers of the profession. Besides these objects it has others of a benevolent nature; affording relief to such members of the craft or their relatives as are in need of it, and providing money grants to assistants or apprentices in narrow circumstances who wish to complete their studies in the universities or colleges.

It has two classes of members, ordinary and extra-ordinary. The former are all "apothekers" who have passed their two examinations and are fully qualified to open pharmacies, though they are not all required to be actually in business. The latter is made up of assistants, and may also be recruited from other allied professions. Members of both kinds pay a yearly subscription of 12s. and an entrance fee of half that sum. The roll of the society now bears about 2,985 names; some 200 of these are extra-ordinary members, so that we have about 2,785 apothekers connected with the Verein, out of a total in Germany of 4,750, or thereabout. The members are supplied gratis with the official papers of the Verein, the *Archiv der Pharmacie* and the *Apotheker-Zeitung*.

The first-named organ is scientific in character, containing no trade news at all. It is issued bi-monthly, and is mainly occupied with records of original researches of a high standard of excellence, often the outcome of investigations carried out in the laboratories of the various universities. Abstracts of scientific literature, both of German and foreign origin, are also included. Here also are published the formulæ and drug-descriptions issued by the Pharmacopœia Commission.

The *Apotheker-Zeitung* is the medium for the publication of the reports of the various sub-sections of the society, which is divided into a number of departments, "Bezirke"; these are again sub-divided into smaller branches, or "Kreise," each of which has its own executive of honorary officers.

In the meetings of these sub-sections the matters are introduced and discussed which are to be brought up for consideration at the annual gathering, and the results are published in the journal under consideration. Here also are to be found the announcements of the general council; scientific contributions also appear in it as matter of current interest. The paper is of comparatively recent establishment, being now in the third year of its existence, and the answer to the question whether its production reflects much additional honour upon the society will vary very much with the individual from whom it is obtained. It involves the body referred to in considerable expense, while as a rival of the *Pharmaceutische-Zeitung*, with which it was intended to compete, it has not made much way.

The meeting this year has been held in Berlin under the presidency of Dr. Chr. Brunnengraeber. The council held their first meeting on Monday, on which day also was the reception of the visitors. On Tuesday and Wednesday the general meetings were held, and the afternoons and evenings were occupied by a series of brilliant entertainments, including a visit to the Art Exhibition and a festival dinner in the rooms of the Zoological Gardens. The fact that the seat of the Conference was Berlin gave also an opportunity for the members and visitors to inspect the house of the society, which has been opened this year, as the central office of the institution, under the management of Mr. T. Greis, who also acts now in the capacity of publisher to the *Apotheker-Zeitung*.

In the course of the meetings various propositions and suggestions were brought under consideration and fully dealt with. The first related to the grants of "stipendia" to students already alluded to. These are fixed at the sum of 7l. 10s. for each applicant. The "Bezirk Brandenburg" presented a suggestion that this should be raised to 15l. The province of Hesse, however, did not favour the proposed change, maintaining that the present amount to a greater number of applicants is better than a larger sum to fewer, and that the 7l. 10s. is sufficient to cover the cost of the qualifying examinations, for which purpose it is generally applied. This view also obtained the support of Professor Schmidt, director of the Pharmaceutical Institution in Marburg, but the motion to raise the grant from 7l. 10s. to 15l. was ultimately accepted.

Hesse and Hanover districts submitted important proposals. Various provident funds have been instituted by the Government for providing artisans and labourers with pensions in advanced age or when unfit for work. These institutions are under the direct control of the Government, and every employer is obliged to see that his assistants pay into such a fund a percentage of their income regularly. Hitherto the profession of pharmacy has not been included in the regulations, but may be officially any day, according to the result of the consideration of a proposed paragraph, setting forth that clerks, apprentices, &c., the regular income of whom does not exceed 100l., should be required to join an association of the kind mentioned. They would, by paying the usual percentage of income, be able to obtain, if unfit for work, an annual income of from 6l. to 12l. 10s., according to age. It has been, however, mooted that the amount shall be in the case of chemists raised to 18l. per annum, the subscription being also of course increased. The question to be decided was, whether such an arrangement should be commended by the Apotheker Verein, or whether it should devise a private and similar institution suited to the requirements of the profession, and submit it for Governmental sanction in lieu of the official scheme. After considerable discussion the opinion was arrived at that the innovations implied in the proposals are unnecessary, and accordingly they fell to the ground.

Another debate turned upon the desirability of forming a private arrangement for meeting a possible official decree necessitating the insurance of all employed in a chemist's shop against accidents. This was designed in a similar manner to be an alternative scheme to that of the Government. A motion regarding it was brought in by the Council, and was agreed to by the meeting.

Pharmaceutical legislation formed the subject of a discussion, a proposition being introduced that certain paragraphs in the law should be revised which aimed to define the limits separating articles and preparations which may be sold by a pharmacist from those which may be dealt in by unlicensed druggists. The proposition, however, received little favour at the hands of the meeting and was rejected, as was also another noteworthy and practical proposal, that the recently appointed Pharmacopœia Commission should issue half-yearly reports on new drugs, including regulations as to their general sale, or disposal only by prescription—conditions of considerable importance, which have been brought into prominence by the manufacture of and promiscuous dealing in sulphonal-chocolate.

A similar fate attended a motion to the effect that a meeting of delegates of German chemists should be convened to consider the direction and scope of subsequent new regulations in connection with chemists' licences for opening businesses.

At the Munich Conference, amongst the motions agreed to was one to prevent the public recommendation and advertising of remedies for the cure of disease. In regard to this, Dr. C. Schacht, of Berlin, mentioned that the Council intends to have a commission appointed, whose duty will be to analyse patent and secret medicines.

According to regulation Dr. G. Leube, of Ulm, and Dr. C. Schacht at this meeting retire from the council by rotation. A motion was, however, submitted for their re-election, and it was agreed to.

It was resolved before the meeting closed that the camping-ground next year next year should be Würzburg.

THE TEACHING OF CHEMISTRY.

ADDRESS TO THE CHEMICAL SECTION OF THE BRITISH ASSOCIATION.

By Professor WILLIAM A. TILDEN, D.Sc. Lond., F.R.S.,
F.C.S., President of the Section.

A PART of the duty which devolves upon the President of a section of the British Association consists in delivering an address, and the knowledge that a pretty full liberty of choice is permitted in regard to the selection of a subject is the only source of comfort which serves to alleviate the onerous nature of the task.

It seemed to me that the time is gone by when an attempt to review progress over the whole field of chemical science is likely to be useful or even possible, and an account of what is being done within the narrow limits of those parts of the science to which I have been able to give special attention would be ill-adapted to the character of a speech addressed to the members of the section collectively. The fact that at the last meeting of the Association a committee was appointed to inquire into the methods at present adopted for teaching chemistry suggested that, as I had not been able to accept an invitation to join this committee, I might make use of this opportunity for contributing to the discussion. The first report of the committee will be received with much interest by the section. As might be expected, it embodies the expression of many varieties of opinion.

The existence of chemistry as a department of science not merely requiring the observation of facts that are to be made useful, but seeking in the accumulated stores of observation to discover law, is a thing of comparatively recent growth. How chemistry arose out of alchemy I need not remind you, but the connection between the study of chemistry and that of medicine, and the maintenance of this connection down to even the present generation, is illustrated by the fact that a large number of men who have become eminent as chemists began their career in the surgery or the pharmacy. Black, Daly, Berzelius, Wollaston, Wöhler, Wurtz, Andrews, and W. A. Miller began by the study of medicine, whilst Scheele, H. Rose, and the great names of Liebig and Dumas are to be found in the long roll of those who received their earliest notions of chemistry in the pharmaceutical laboratory. Chemistry has been gradually emancipated from these associations with enormous advantage to both sides. So long as technical purposes alone were held in view a scientific chemistry could not exist, but no sooner did the study take an independent form and direction than multitudes of useful applications of the facts discovered became apparent.

It is only within a comparatively few years, however, that universities, in this country at least, have ceased to deal with chemistry as a kind of poor relation or humble follower of medicine, and have permitted her to emerge from the cellars of a museum or school of anatomy, and have given her a commodious dwelling in the fair light of day.

In the old time such instruction in chemistry as was given in the universities and mining or technical schools seems to have taken the form of lectures read by the Professor, and access to a laboratory for practical manipulation seems to have been a high privilege accorded only under exceptional circumstances to the few. We are told, for example, that when Liebig went to Paris in 1823 he applied to Gay-Lussac for practical instruction at first without success, and that admission to the laboratory of the École Polytechnique was ultimately granted him only through the intervention of Von Humboldt.

In a great many cases the student of chemistry must have been almost entirely dependent upon private study, though books were scarce and materials more costly than now. Davy, for example, seems to have had no instruction whatever previous to his appointment as assistant to Dr. Beddoes at the Pneumatic Institute at Bristol.

Doubtless, therefore, the recollection of his own early difficulties when seeking instruction contributed largely to influence Liebig in the establishment of the laboratory in the University of Giessen, and in the adoption of the principles which guided his teaching there. For the first time in the history of chemistry students met not merely to listen to the

discourse of a professor concerning his own experiments and conclusions, but to examine for themselves the basis of the theories taught, to learn the processes of analysis, and by independent investigation to extend the boundaries of existing knowledge.

The fame of the new school spread fast and far, and soon men from every part of the civilised world assembled to share in the advantages offered. The influence of the new method can be estimated when we reflect that nearly all the now passing generation of chemists in England and America obtained the greater part of their training in Liebig's laboratory; and as a large number of them have been teachers, it may be assumed that they transplanted into their own countries the methods they had learnt from the great German master.

It was not till 1846, long after the school at Giessen had risen into fame, that in England a sense of our deficiencies in respect to provision for teaching chemistry was felt strongly enough to lead to the establishment of a college of chemistry. At that time the professor of chemistry at Oxford was also professor of botany. At Cambridge it was thought praise and boast enough that the occupant of the chair of chemistry had, during more than thirty years, frequently resided at the university and every year gave a course of lectures. The Jacksonian professorship was not then, as now, in the possession of a chemist. University College, London, had at this period a very distinguished man in the chair of chemistry, but it was only in 1848 that a commodious laboratory was provided by public subscription raised in commemoration of the services of Dr. Birkbeck in promoting popular education. In that year Fownes was appointed to co-operate with Graham in the work of teaching, though his premature death soon after left but little time for the fulfilment of the rich promise of his earlier years. At Manchester John Owens had died in 1846, leaving the bulk of his estate for the purpose of establishing a university in Manchester, but as yet the Owens College was not.

The foundation of the College of Chemistry in 1846 was therefore an event of supreme importance in the history of chemical teaching in this country; and though at the time some dissatisfaction was expressed at the choice of the professor selected to direct the work, who, though a distinguished pupil of Liebig, was not an Englishman, all British chemists now concur in believing the choice to have been a most fortunate one. The great majority of my contemporaries having begun, continued, or ended their studies in Oxford Street, they and all who have come under Dr. Hofmann's teaching know how vast was his capacity for work, and how marvellous was the power he possessed of communicating his own enthusiasm to his pupils.

Since the time of which I have been speaking the means of instruction in science in England have multiplied enormously. In University College, London, founded in 1828, and in Owens College, Manchester, founded in 1851, not only have chairs of chemistry existed from the first, but they have been occupied by a succession of chemists of the highest eminence. But long after 1846 the whole of the serious teaching of scientific chemistry was accomplished at the College of Chemistry, and it was high upon twenty years before the Manchester school began to attract considerable notice.

In 1872-3 the movement set in which has resulted in the erection of colleges for higher instruction at a number of important English and Welsh towns. These, together with the pre-existent Queen's colleges in Ireland and the universities of more ancient foundation in the three kingdoms, are for the most part provided with pretty good laboratories and a competent staff. We have also the Normal School of Science and the Institute raised by the City and Guilds of London at South Kensington, and its associate college at Finsbury. England is, therefore, at the present time as well provided with places of instruction for the study of chemistry as any country in the world.

And a very large proportion of the professors or heads of the chemical schools in the colleges and universities of the United Kingdom have shown by their own activity in research that they are qualified to give instruction of the highest kind, and are ready to train young chemists in the art as well as in the theory of their subject.

It is, therefore, no longer true that a student desiring to be-

come a scientific chemist must needs choose between a single institution in London and another in Manchester, or must seek the instruction which he cannot get at home in the laboratory of a foreign university. As an element in a liberal education the position of chemistry is also considerably in advance of what it was twenty years ago.

It is, nevertheless, true that increased opportunities for study, a considerable supply of capable teachers, and an enormous body of students have not produced such an amount of original investigation, or even of accurate analytical work, as might reasonably be expected. A full and complete explanation of all the influences which contribute to this result would be difficult; but I think the apparent inactivity of the chemical schools in this country is not generally the fault of the professors, but is chargeable in the main to the ignorance, and partly to the indifference, of the public. There exists as yet no intelligent feeling in favour of learning, nor, indeed, in favour of any sort of education, unless there is expectation of direct returns in the form of obvious practical results. It is this which animates the present popular movement in favour of so-called "technical" education. That part of the attention of the nation which can be spared from the contemplation of Irish affairs is concentrated upon the problem of how to make every little boy learn the rudiments of chemistry, whether he likes it or not, whilst there are comparatively few people interested in the question of how to provide means and instruction for those who are capable and desirous of attaining to a mastery of the subject. Moreover, the public have not yet grasped this truth, that, so far as chemistry is concerned, it is of very little consequence to the great metallurgical and chemical industries whether the workpeople do or do not know a little chemistry, though it is important that they should be intelligent enough to obey orders. What is wanted is that every manufacturer and manager should himself be an accomplished engineer and chemist, trained to observe, to reason, and to solve problems for himself.

In the case of chemistry this absence of sentiment in favour of concentration and thoroughness, and the demand for superficiality, if only it can be had wholesale, tells in a variety of ways. The governing bodies who control the various colleges and universities, and the public generally, cannot understand that good and useful work is being done unless it can be shown in the form of passes at examinations. Though I most firmly believe in the necessity for examinations, serious mischief begins when they are regarded as the end itself, and not as mere incidents in the student's career towards the end, which should be knowledge.

In respect to chemistry this is the disadvantage which attends the operation of such a system as that of the Science and Art Department, or of any system under which certificates in connection with individual subjects are granted on easy terms. Especial objection I also feel to such expressions as "advanced," used in reference to a particular stage, so commonly misunderstood as they are by the student and his friends, and operating against his further progress.

Reflect also upon the fact that there are only two or three colleges in this country which can boast of more than one professor of chemistry. In nearly all cases one man is called upon to discharge the duty of teaching classes, both elementary and advanced, in pure and applied chemistry, inorganic and organic, theoretical and practical. This is a kind of thing which kills specialism, and without specialists we can have not only no advance, but no efficient teaching of more than rudiments.

That teachers ought to engage in research at all is by no means clear to the public and to those representatives of the public who are charged with the administration of these new institutions. This was illustrated very painfully a few years ago by the conditions under which professors were engaged at a certain college founded, according to the declaration of its promoters, "by the people for the people," wherein it was announced in round terms that original research was not wanted, as the college was "for the good of the many and not for the advantage of the few." This example of ignorance is only remarkable by reason of its audacity. Probably many people hold a similar view, though few are bold enough to declare it.

Without going far into the discussion of the general question, which is a large one, I may perhaps be allowed to offer

a few remarks for the consideration of any of my audience who may perchance incline towards that opinion.

It is only when a teacher occupies himself with research that the most complete guarantee is given that he is interested in his subject and that he is a learner. A popular mistake consists in regarding a professor as a living embodiment of science—complete, infallible, mysterious; whereas in truth he is, or ought to be, only a senior student who devotes the greater part of his time to extending and consolidating his own knowledge for the benefit of those who come to learn of him, not only what lies within the boundaries of the known, but how to penetrate into the far greater region of the unknown. Moreover, the man who has no intellectual independence and simply accepts other people's views without challenge is pretty certain to make the stock of knowledge with which he sets out in life do service to the end. That one may be fitted to form a sound judgment concerning new theories he must be familiar with the methods by which progress is accomplished. The work of investigation then reacts beneficially upon the work of teaching; that is why teachers should be encouraged, nay, even required, to investigate, and not because their discoveries may haply prove to be practically useful.

Of course it may be said that there have been distinguished investigators who could not teach, but the converse is not true; every teacher who has attained to eminence as a teacher—who has drawn men after him, who has founded a school of thought, and has left his mark upon his generation—has been an industrious worker in research of some kind. All teachers cannot be expected to reach the same high standard, but this is the ideal after which all must strive, or fail utterly.

The fact that there is as yet little demand among schoolmasters for high attainments in chemistry is another reason why so little is accomplished in the chemical schools. Here again the public is really to blame. It is disgraceful that in all classes of schools, even where chemistry is supposed to be taught, there are but few places where serious employment is found for the well-trained chemist. I could point to several schools which claim the position of first-rate, where chemistry is taught by masters who have never studied the subject at all, but who are, I suppose, allowed the traditional "ten minutes' start" with the book. Would the head-masters of such places dare to employ a person to teach mathematics who did not know the four first rules of arithmetic, or another to teach Latin who had not even got through the accidence? I fancy not. This, however, is without exaggeration the exact parallel of the position in which chemistry is placed in the majority of schools. I have heard the excuse that there is a lack of competent teachers. Of course the demand and the supply will react upon each other. When you offer a reasonable stipend, reasonable accommodation for teaching effectively, reasonable leisure for the master's own studies, and a position on the staff not inferior to that of the classical and mathematical masters, I believe that then, but not till then, there will be as many good school teachers of chemistry as there are of other subjects.

I could point to other prominent schools where the chemistry and other branches of science are taught by a peripatetic South Kensington teacher, who arrives weekly with his box of tricks. Not long ago I was invited to distribute the prizes given in connection with the evening classes in a town not far from Birmingham, and I took the opportunity of advising the teachers present on the occasion to read. One of them said to me afterwards, "When do you suppose I can read? I am engaged in going round to my schools from nine in the morning till ten at night." People of this kind do the greater part of the so-called science teaching sustained by the Science and Art Department, and the worthy town councillors and committees who employ them think that these are the people who are going to help the British manufacturer in his struggle against foreign competition under the guidance of the highly-trained chemists from the German universities. This would be ludicrous if it were not so very serious.

There is an opportunity at the present time of correcting some of these mistakes, but no advantage is being taken of it. I refer now to the "technical schools" which are springing up everywhere. There may be a few competent teachers of chemistry employed in some of them, but I find it difficult to think of many examples. The sort of person who is put

in charge of these places is usually a schoolmaster, who is allowed, sometimes even after his appointment, to get a short course of qualitative analysis in order to enable him to obtain a certificate which will entitle him to earn grants from the Science and Art Department.

And manufacturers are much to blame. Instead of employing trained chemists the greater number of those who want chemical assistance are satisfied to engage the services of boys who have been to an evening class for a winter or two.

The difficulty of finding a satisfactory career in connection with the subject also accounts for the fact which I fear must be admitted, that chemistry does not attract its due share of the intellect of the nation. Clever young men can usually do better at the law, in medicine or in commerce, than in teaching chemistry or in manufactures in which chemical skill is applicable. So badly educated are many of the young men who commence the study with professional objects in view that it is quite impossible to teach them anything beyond routine analysis, if so much.

I heard lately from a friend of mine a story of a young groom in his employ who cannot read and write, and who declines to be taught to read on the ground that, considering himself pretty smart, he is afraid that "learning might dull him." This idea seems to be rather prevalent among certain classes of people, but I can assure those who wish to be chemists that some familiarity with the rule of three, and such a command of English as will enable them to understand words of more than one syllable, will be no obstacle to the acquisition of chemical knowledge.

Three years has hitherto been regarded as the normal period for study. The question arises, can a young man, previously well educated, expect to become an accomplished chemist, competent to apply his knowledge usefully, by giving the whole of his time to study during *three years*? I believe not.

By reason of the enormous development of the science the position of the student of chemistry is nowadays very different from what it was thirty years ago. Since that time we have not only got a few new elements, a matter of small importance in itself, but new views of the nature of the elements and of their mutual relations. This could hardly have come about but for the recognition of the law of Avogadro as a fundamental principle, upon which we rely as the ultimate criterion by which the true distinction between so-called equivalent weights and molecular ratios has been established. By the gradual evolution of ideas having reference successively to the electro-chemical relations of elements and compounds, the theory of types, and atomicity or valency, we have arrived at notions of chemical constitution based upon the hypothesis of the orderly linking together of atoms. Thirty years ago isomerism had scarcely attracted notice, and carbon compounds were only just beginning to be arranged in homologous series. The general use at the present day of the language of the molecular kinetic theory shows how deeply this theory influences our ideas of the internal constitution of matter. Within the period referred to dissociation has been studied and a vast body of thermo-chemical data has been accumulated. And although the larger portion of the results of this work still await interpretation, dynamical ideas of chemical action are now generally accepted. We note also new methods of investigation, including spectroscopic analysis with all its train of results.

When I began chemistry many of these subjects and others had not been heard of. Of course we had our difficulties, and I will remember the puzzles met with in the endeavour to refer compounds to their appropriate types, also the consternation caused in the student's mind and the confusion in his note-book by the successive changes in the atomic weights of carbon, oxygen, sulphur, and the metals. But on the whole there was much less to learn.

It has always been thought essential that a student of chemistry should have some knowledge of physics. It is now more than ever necessary that this knowledge should be extensive, sound, and based upon a good foundation of mathematics. Thirty years ago a hundred pages of Fownes contained all that was thought necessary, but no one nowadays could be satisfied with that. It is now asserted that a young chemist who expects to find a career in industrial chemistry should also have learnt drawing, and more

important still that he should have a good general knowledge of mechanics, steam and building construction. I suppose everyone will agree in adding French and especially German. You see how the requirements expand.

The inference from all this is that it now takes longer to make a chemist than formerly. This is a point of considerable practical importance.

My estimate that a well-educated and intelligent young man will now require five years for the study of chemistry and accessory subjects before he is likely to be of much use will not appear extravagant.

Here one may remark that in order to become a chemist it is before all things necessary to study chemistry. If the greater part of a student's time is to be taken up with other things it is not very clear how this is to be done.

A reform all round is wanted. The mathematics, modern languages, and drawing properly belong to the antecedent school period, and I believe the Institute of Chemistry would greatly promote the interests of the profession if it would impose upon candidates for the Associateship not only a three years' course of training with an examination in practical chemistry at the end, but a severe examination in mathematics, in the English, French, and German languages, and perhaps drawing before matriculation or registration.

A consideration of the present position of the student of chemistry leads naturally to a review of the methods of teaching the subject. Speaking broadly, I suppose nearly all professional chemists who have had the advantage of systematic training have, up to the present time, passed through very much the same kind of course. This consists, as everybody knows, very largely of analytical work, qualitative and quantitative, preceded or followed by the preparation of a number of definite chemical compounds, besides practice in certain very necessary physical determinations, *e.g.*, relative density of solids, liquids, and gases, melting points, boiling points, and so forth. There seems now to be a disposition in some quarters to depart from this time-honoured curriculum in favour of a course in which the student is early engaged in some semblance of investigation, and in which he is encouraged to attack difficult problems, which from their fundamental importance offer considerable temptation. I venture to express a hope that this will not be carried too far. Already we are in danger of losing the art of accurate analysis. One constantly meets with young chemists who are ready enough to discuss the constitution of benzene, but who cannot make a reliable combustion. And according to my own experience attempts at research among inexperienced chemists become abortive more frequently in consequence of deficient analytical skill than from any other cause.

One modification I should gladly see generally adopted. I think an unnecessary amount of time is often spent upon qualitative mineral analysis, and an acquaintance with the properties of common and important carbon compounds ought to be acquired at an early stage. Quantitative work might with advantage be taken up much sooner than usual. By that, however, I mean serious work in which good methods are used and every effort made to secure accuracy. I do not believe in the use of rough methods because they are easy; the use of such leads the student to be satisfied with approximations, which after all he will learn soon enough is all that is possible to man. I am very glad to know that I have the support of one of my predecessors in this chair (Sir Henry Roscoe), whose opinion will carry far greater weight than mine in deprecating premature efforts to engage students in research.

But though it does not appear to me to be wise to encourage beginners, without sufficient experience or manipulative skill, to attempt original work, one of the best possible exercises preparatory to original work is to select suitable memoirs, and not only to read them but to work conscientiously through the whole of the preparations and analyses described, following the instructions given. Many of Dr. Hoffmann's papers afford excellent examples. So also do the writings of Dr. Perkin and Dr. Frankland, besides those of many other chemists which could easily be selected by the teacher.

An intelligent student, possessing the requisite preliminary knowledge, would obtain much instruction by repeating the work contained in such papers as the following, for example:—Emerson Reynolds on the missing Sulphur Urea ("J. Chem. Soc." 1869-i.); Fittig and Tollens on the

Synthesis of Hydrocarbons of the Benzol Series (Liebig's "Annalen," 1864, cxxxi. 303); L. Claisen and Pupils on the introduction of Acid Radicles into Ketones, &c. ("Berichte," xx.); Lawson and Collie on the action of Heat on Salts of Tetramethyl-Ammonium ("J. Chem. Soc.," June 1888); Thorpe and Hambley on Manganic Trioxide ("J. Chem. Soc.," March 1888); besides many others, including papers on analytical processes. To such as these there might subsequently be added the determination of an atomic weight on the model of one of the best masters, as a discipline which could not fail to be impressive, and full of instruction.

When chemistry is taught, not with professional or technical objects in view, but for the sake of educational effects, as an ingredient in a liberal education, the primary object is to make the pupil observe and think. But with young students it is very important to proceed slowly, for chemistry is really a very difficult subject at first, owing to the variety of strange materials with uncouth names. To reason from particulars to generals is for the unpractised always a difficult process, and in chemistry this is specially the case. With young students it is, in my experience, preferable to adopt a somewhat dogmatic style, which should of course be exchanged for a more cautious one as the pupil proceeds.

Thus the law of Avogadro can only be given at first as a recognised physical law, without much explanation, since the full apprehension of the evidence upon which it rests can only be secured at a late stage of the learner's progress. There is of course great advantage in the use of an inductive method if only it is employed judiciously. Otherwise the result is only confusion.

A number of papers, pamphlets and text-books have lately appeared, professing to teach the principles of the science practically and by new methods. Most of these turn out, upon inspection, to be very old methods indeed, but there is a small residue of distinctly original character which are sure to attract, as they deserve, considerable attention. The systems I refer to provide a series of problems which the pupils are called upon to solve. According to this plan the student is not allowed peaceably to examine the properties of oxygen or sulphur which he now sees for the first time. He must weigh, and measure, and observe, and then infer. All this coming at once upon the head of a beginner seems to me to be well fitted to drive him to despair.

I well remember the first experiment in chemistry I ever made. It consisted in dissolving zinc in diluted sulphuric acid in an evaporating dish, lighting with a match the bubbles of hydrogen as they rose, and afterwards leaving the solution to crystallise. I was about sixteen, and the bubbles of gas as well as the crystals I afterwards got interested me very much. If at that time I had been made to weigh the zinc and acid and measure the hydrogen with the object of answering some question about the composition of zinc and hydrogen sulphates, I should have been pretty much in the position of a boy ignorant of geometry shut up with the propositions of Euclid and ordered to give the demonstrations.

I think when we recall such a fact as that Priestley, who discovered oxygen in 1774, failed to the end of his days to understand the process of combustion, and actually wrote, in 1800, a pamphlet in defence of "phlogiston," we ought not to be surprised when young people, though born a century later, fail to perceive at once the full significance of facts to which they are introduced for the first time. At the outset you cannot reasonably expect a young student both to observe accurately and infer justly. These two things must be kept separate at first, and for this reason among others I believe that attempts to make young students verify for themselves the fundamental propositions of chemistry will not be successful. One has only to trace the origin of one's own convictions in reference to any important fact or principle to perceive that they very seldom spring into existence suddenly, but almost always commence in vagueness and hesitation, acquiring consistency and solidity only as the result of accumulated experience.

I will not pretend to determine what may be included within the wide circle of the functions of the British Association; but I think I cannot be mistaken in assuming that the advancement of science is dependent in no small degree upon the provision for the efficient teaching of science. I have traced an outline of what has been done in the past, and have endeavoured to show in what respects I think we are

deficient at the present time. No matter how ardent may be the aspirations, how earnest the endeavours of the few, progress will be slow unless they are sustained by the sympathy of the many. On one principle the public must surely insist, that only those shall be allowed to teach who know.

Personalities.

MR. S. HARRY has purchased the business of Mr. W. D. Jones, Stepney Street, Llanelly.

MR. MUNSLOW has started a household drug stores, at Evesham Street, Redditch.

MR. W. R. HOPKINS has commenced business at Vere Street, Cadoxton, near Cardiff.

MR. TIMBRICK has commenced business at 12 Waterloo Street, Swansea, under the style of the Cambrian Drug Stores.

MR. JAMES FINE (late of Edinburgh) has taken the old-established business of Mr. William Garrow, chemist, Keith, Banffshire.

AFTER an absence of some nine or ten years Mr. John M. Munro has again got his name over his old place of business at 53 Nicolson Street, Edinburgh.

MR. THOMAS FAIRGRIEVE, 46 Clerk Street, Edinburgh, who is retiring, has disposed of his business to Mr. W. S. Glass, Frickheim, who is going to take up his residence in Edinburgh.

MR. THOMAS SKEEL has been appointed master of the Apothecaries' Company, and the office of wardenship has been conferred upon Mr. George Hogarth Makins and Mr. E. Chabot, Mr. James R. Upton having again been appointed clerk.

THE rank of Count has been conferred by the German Emperor on Baron Douglas, of Aschersleben, a gentleman of Scotch origin, who is chief proprietor of the celebrated potash mines near Stassfurt. He was made Baron only a couple of years ago.

MARRIAGE.

[Notices of Marriages and Deaths are inserted free if sent with proper authentication.]

BANCROFT—DOWNING.—On September 12, at St. Mark's Church, Milverton, Charles Frederick Bancroft, of Kington, chemist and druggist, third son of Mr. J. W. Bancroft, of South Somercotes, to Florence Jessie, youngest daughter of Mr. H. Downing, of Milverton (late of Stratford-on-Avon).

DEATHS.

BURGESS.—On August 29, John Burgess, of the firm of Burgess & Hart, drysalters, Black Lane, Radcliffe, Lancashire.

CRAIG.—On August 24, Mr. George Craig, chemist and druggist, Duncanston, Aberdeenshire. Aged 95.

EVANS.—On August 23, Mr. Alfred John Evans, chemist and druggist, Dorchester. Aged 66.

GILBERT.—On September 6, at Manchester Road, Rochdale, Mr. H. A. Gilbert, assistant for seventeen years to E. B. Taylor, chemist, of Rochdale. Aged 50.

MORIARTY.—On August 23, 1888, suddenly, at the Medical Hall, Killarney, Mr. Patrick Stanislaus Moriarty, licentiate of the Pharmaceutical Society of Ireland, aged 33.

It was discovered some time ago in a wine store in France that some bottles matured excellently while others became bad. As the wine was mainly of one vintage, the matter was investigated by a chemist called Pélégate, who found that the bottles whose contents went bad were made of glass in which there was an excess of lime, and the solution of this had disturbed the equilibrium of the vinous fluid.

BRITISH ASSOCIATION GLEANINGS.

THE British Association week at Bath has been more successful than was anticipated, but it was a very long way behind the record-breaker at Manchester last year. At the Manchester meeting 3,833 tickets were sold, and the total receipts amounted to 4,294*l*. At Bath the tickets sold numbered 1,984, and the money taken was 2,107*l*. Among the grants made for research only 30*l*. is allocated to chemistry, the following subjects being endowed with 10*l*. each:—"The Influence of the Silent Discharge of Electricity on Oxygen and other Gases," "Methods of Teaching Chemistry," "Oxidation of Hydracids in Sunlight." The next meeting is to commence at Newcastle-on-Tyne on September 11, 1889. Leeds and Cardiff compete for the visit of the Association in 1890, and Edinburgh wishes to have it in 1891.

TEACHING OF CHEMISTRY IN SCHOOLS.

To the chemical section Professor Dunstan read the report of an imposing committee, consisting of Professor H. E. Armstrong, Mr. J. T. Dunn, Professor W. R. Dunstan (secretary), Dr. J. H. Gladstone, Mr. A. G. Vernon Harcourt, Mr. Francis Jones, Professor H. M'Leod, Professor Meldola, Mr. Pattison Muir, Dr. W. J. Russell, Mr. W. A. Shenstone, Professor Smithells, and Mr. Stallard, which had been appointed for the purpose of inquiring into and reporting on the present methods of teaching chemistry.

The committee had addressed 500 letters to head-masters of schools and principals of training colleges, but had only obtained 86 answers. From these they learned, what they probably knew before, that in a few schools chemistry is well taught, in many it is only taught superficially. "Sometimes no laboratory is provided; frequently the laboratory accommodation is inadequate; and it appears that the details of the preparations for lectures and practical work generally devolve on the teacher himself." We ought to be thankful for a British Association which obtains such information for us.

HOW MUCH THEY DON'T KNOW.

THE chemical and biological sections met for a little tournament one day in the Friends' Meeting House, ostensibly to discuss the chemical problems presented by living bodies. Dr. Tilden presided, and Professor Michael Foster opened the attack. He said physiologists were of all men the most miserable, because they had not to deal with a compact set of phenomena. All their problems sooner or later became mixed, and they had constantly to appeal to other sciences, and specially to chemistry, although they did not get as much help from the chemists as they ought to do. The living body, animal or vegetable, might be said to be composed of a framework of living substance mixed up with other things. This substance is continually breaking down by a series of stages, the ultimate stage being carbonic acid, ammonia, and water, with some salts. From these bodies the unit is again built up. In the ascent and descent of these bodies there occur the proteids, the fats, and the starches or sugars. It is in these processes that the physiologist needs the assistance of the chemist. Take, for instance, the action of ferment, such as the change by fermentation of starch into sugar. The physiologists want the chemists to tell them the exact nature of the change; what exactly happens when the starch takes up water and becomes sugar. Then, again, the proteids, of which new forms are discovered every year. These all seem very much alike, and yet they inject one into the back of an animal and it dies, while it takes no notice of the introduction of another. They want some hint from the chemist as to the difference in these bodies. There is too the question of secretion, as shown well in the salivary glands. If the nerves of the gland are excited and there is a rush of blood to the vessels surrounding it, there is generally a free secretion of saliva; but if, before that action, a little belladonna be introduced into the system, there would be all these actions, but no saliva. How did they explain that?

Mr. Thistleton Dyer said botanists felt the want of information as to the synthesis of bodies in the living body even more acutely than physiologists. He was of opinion that starch must not be taken as the starting-point; it might

be that chlorophyll would be found constantly forming and breaking up and constituting the starting-point of starch.

Sir H. Roscoe said before they could answer as to the course of nature's action they must find out the molecular constitution of the various bodies by synthesis in the laboratory.

Dr. Armstrong intimated that they would probably know more about these matters fifty years later. This association or some one else ought to spend 5,000*l*., and appoint competent men to investigate. Professor Schäfer interjected the wise remark that there was no such thing as physiological chemistry, because when anything became chemical it ceased to be physiological. Dr. Gardner helped matters along by explaining that the phenomena of life consisted in an infinite arrangement and rearrangement of an exceedingly complex system of molecules, and that protoplasm would ultimately be found to be the development of energy and nothing tangible. Dr. Gladstone cleared any remaining difficulty by the observation that the proteids are colloid compounds of crystalloids, and that the rearrangement of the crystalloid molecules may effect the changes. Professor Foster had to express his gratitude for the information he had obtained, but intimated that he was still open to take in some more.

ANTS, BEES, AND WASPS.

SIR JOHN LUBBOCK interested the biological section with some further details respecting his insects. Sir John had to announce the death of a queen ant which has lived in one of his nests since 1874, and must therefore have been about fourteen years old, much the oldest insect on record. It is a surprise to most of us to learn that about 4,500 species of wild bees are known, and of wasps 1,100, of which 170 and 16 respectively live in Britain. Their habits differ in almost every genus. Sir John Lubbock referred to some interesting peculiarities, and quoted from the researches of M. Fabre. One species of wasps, the *ammophila*, having built her cell, places in it as food for her young the full-grown caterpillar of a moth, *Noctua segetum*. Now, if the caterpillar were uninjured, it would struggle to escape and almost inevitably destroy the egg; nor would it permit itself to be eaten. On the other hand, if it were killed it would decay and soon become unfit for food. The wasp, however, avoids both horns of this dilemma. Having found her prey, she pierces with her sting the membrane between the head and the first segment of the body, thus nearly disabling the caterpillar, and then proceeds to inflict eight more wounds between the following segments, lastly crushing the head, and thus completely paralysing her victim, but not actually killing it; so that it lies helpless and motionless, but, though living, let us hope insensible. M. Fabre thinks this remarkable instinct cannot have been gradually acquired. Sir John Lubbock differs from him on this and some other points, but warmly commends his interesting book and ingenious researches.

THE PHONOGRAPH AND THE GRAPHOPHONE.

In the mechanical science section, of which Mr. Preece is president, the latest electric inventions, Edison's phonograph and Tainter's graphophone, were exhibited, and created much interest. There seems every probability that these instruments will readily fulfil the expectations we have been led to anticipate regarding them. Edison has just started a factory, and expects to turn out about 18,000 phonographs a year. The price will probably be 20*l*. or 25*l*. each. The agents of the two machines got to rather high words, and only consented to adjourn their dispute to a more convenient field on the urgent request of the president. The original idea of the phonograph is no doubt Edison's; but at first he employed tinfoil as the surface for the impressions of the voice conveyed by electricity. Tinfoil, however, was found to pucker, and this interfered with the distinctness of the reproduction of the sounds. Edison seems to have neglected his invention, but others, including Mr. Tainter, went on experimenting, and the discovery that a card surfaced with wax in substitution for the tinfoil would overcome the difficulty came from them.

WAIST-BELTS AND STAYS.

To the Physiological Department of the Biological Section Professor Roy, M.D., F.R.S., Professor of Pathology in the University of Cambridge, and Mr. J. G. Adams, M.A.,

M.R.C.S., University Demonstrator in Pathology, at Cambridge, contributed a paper on the "Physiological Bearing of Waist-belts and Stays."

By means of a "cardiometer" the authors have been enabled to register very accurately the changes of volume in, and the amount of blood propelled by, the heart under varying conditions. Experimenting upon the dog, they found that even slight compression of the abdomen caused an increase in volume of the heart, and with this a greatly increased amount of blood passed through the heart in a given time, the increase being often 30 and 40 per cent., and more. Experience of this fact, which is based on easily understood anatomical conditions, explains, they think, the use of some form of waist-belt by all nations. The waist-belt is of use in cases of sudden and great exertion, and in those cases where, through want of tone of the abdominal wall, it becomes necessary to counteract the tendency to a useless storing up of blood in the abdomen; and lastly, and most frequently, by those in perfect health, by bringing more blood into the service of the brain and muscles to produce a condition of increased mental and muscular activity. The authors think that among women some form of waist-belt is very advantageous, be it from muscular weakness, or from a desire to obtain easily a condition of good mental and bodily activity. Moderate constriction does no harm; extreme constriction is not only absurd but dangerous. The pressure upon the abdomen should be capable of alteration according to circumstances, and should be slight after meals, when digestion is going forward and a full abdominal circulation is required. Stays should leave the lower part comparatively elastic, and pressure should be exerted by an external belt.

A long discussion followed. The speakers generally accepted the facts of the paper, but did not consider it a legitimate deduction that because one good effect attended the wearing of belts that the practice was to be generally approved.

SIMPLE TRANSPARENCIES.

At the Mayor's *soirée*, held on Monday evening, an interesting feature was a method of exhibiting illustrations of pond life, which was adopted by some of the local societies, and which was much applauded for its effectiveness and simplicity. Three sides of a long room were occupied with what are called transparencies. Brown paper is stretched on frames. Pieces are cut out of the brown paper corresponding with the size of the illustrations, which are painted on tissue paper. Behind the illustrations are gas-jets, and the strong light passing through the tissue paper made the objects distinctly visible at a long distance.

BANKRUPTCY REPORTS.

Re ARTHUR GEORGE RICKARBY, Walton-on-the-Naze, Chemist and Druggist.

THE first meeting of the creditors concerned herein was held at the Town Hall, Colchester, on September 5, Mr. C. Godfrey (Official Receiver) presiding.

The statement of affairs presented showed liabilities to unsecured creditors, 772*l.* 16*s.* 9*d.*; creditors fully secured, 450*l.*; preferential creditors, 14*l.* 14*s.* 8*d.*; total, 1,237*l.* 11*s.* 5*d.*; while the total assets were stated as 195*l.* 18*s.*

The debtor attributes his failure to depression of trade and competition with the stores. He had no offer to make, and, the case being a summary one, the Official Receiver becomes trustee.

The public examination of this debtor was held before Mr. Registrar Goody, who, in reply to questions, stated that he had carried on business at Walton for eleven years. When he started his father bought one business for 250*l.*, which sum he lent him, and placed 50*l.* in the bank to work it with. His father was now a creditor for 300*l.*, and held a note of hand from him for that amount. His father had taken the interest on the money, which was at the rate of 5 per cent., in goods. He had kept the interest up to within the last year. The premises he was living in he claimed as his own, having given 450*l.* for them. They were partly freehold and partly copyhold, and were mortgaged to a Mr. Turpin and the Rev. Philip Sparling for 450*l.*, the former having advanced 380*l.* and the latter 100*l.* The rate of interest in each case

was 5 per cent. He estimated the value of the property now at about 300*l.*, because property in Walton was now deteriorated. His life was insured for 200*l.* He attributed his deficiency to the co-operative stores and to the parcel post, which made a wonderful difference. He explained that the parcel post had made a difference by enabling people to get their drugs from London. Nearly the whole of the residents now obtained their supplies from London "stores," and a great many farmers used them. The immediate cause of his failure was the issue of a writ by one of his creditors. His returns went down from over 800*l.* in 1880 to less than 400*l.*, but his expenses did not go down in a like proportion. There being no opposition the debtor was allowed to pass.

Among the principal creditors are:—

	£	s.	d.
Bourne, Johnson & Latimer, Farnival Street ..	13	18	8
Burton, Squires & Co., Bash Lane ..	27	10	3
Evans, Lescher & Webb, Bartholomew Close ..	14	7	0
Grimwade, Ridley & Co., Ipswich ..	27	14	1
Low, Son & Hayden, Great Queen Street, E.C. ..	10	13	2
Mills, Bawtree & Co., Colchester ..	101	5	0
Maw, Son & Thompson, Aldersgate Street ..	19	14	4
Rickerby, R., Newbury ..	60	17	10
Sparling & Son, Colchester ..	63	0	0
Toogood, Wm., London ..	13	12	7

Creditors fully Secured.

Turpin, B., Charlton ..	350	0	0
Sparling, Rev. P., Erbislock ..	103	0	0

Re ROLAND ROBINSON, 1 Prospect Road, Birmingham, Drysalter.

A MEETING of the creditors concerned herein was held at the office of the Official Receiver, Colmore Row, Birmingham, on September 6, when the following statement of affairs was submitted. Liabilities: To unsecured creditors, 235*l.* 2*s.* 1½*d.* Assets: Stock-in-trade, estimated to produce 100*l.*; machinery, trade-fittings, &c., 45*l.*; furniture, 2*l.*; book debts, 32*l.* 2*s.* 5½*d.*; total, 179*l.* 2*s.* 5½*d.*; leaving, after the reduction of 32*l.* 4*s.* 6*d.*, preferential claims, the net assets at 147*l.* 17*s.* 11½*d.*, or a deficiency of 138*l.* 4*s.* 2*d.* According to the Official Receiver's report the bankrupt commenced business in June, 1887, at No. 1 Prospect Row, Birmingham, as a drysalter, with a capital of 60*l.* He had previously been a traveller. He borrowed 80*l.* from a money club, and paid 145*l.* for the stock and fixtures of the premises. Only a few pounds have been repaid to the club. The debtor has been adjudged a bankrupt, and, this being a summary case, the Official Receiver becomes trustee. The following are the principal creditors:—

	£	s.	d.
Adams, R. F. & J., drysalters, Birmingham ..	9	3	0
Crooks & Taylor, Birmingham ..	2	14	4
Gilman, J., & Son, druggists, Birmingham ..	23	6	8
Hughes, R. E., Birmingham ..	105	18	6
Money Society ..	73	10	0
Roberts, C., & Co., Bristol ..	19	0	0
Robinson, J., Cannock ..	10	0	0
Rudiman, J. J., Bristol ..	8	3	4

JOSEPH DARDS, 485 Old Kent Road, and 71 London Road, Mineral Water Manufacturer.

AT the London Bankruptcy Court on Thursday, before Mr. Registrar Brougham, this debtor applied to pass his public examination upon accounts showing liabilities 2,650*l.* 11*s.* 8*d.*, against assets valued at 337*l.* 0*s.* 8*d.* The deficiency is explained by the debtor as follows: Insufficiency of capital, loss on trading, consequent on the bad season, heavy charges for commission, and law costs in respect of money raised upon his wife's separate property, other legal expenses, interest, &c., and depreciation in the value of his stock, plant, and effects, as now estimated for realisation. The debtor stated that he knew nothing of the trade of a mineral-water manufacturer when he commenced the business, but employed an assistant who had been in the line all his life. He laid out 900*l.* or 1,000*l.* in machinery when he started the business, which has not shown a profit since the commencement. The machinery, which had cost him about 900*l.*, had been valued by Messrs. Izard & Dawe, under these proceedings, at about 600*l.* No opposition was offered, and the examination was concluded.

Gazette.

PARTNERSHIP DISSOLVED.

Barber Brothers, Fenchurch Street, City, colonial brokers.

THE BANKRUPTCY ACT, 1883.

RECEIVING ORDERS.

Bainbridge, John (trading as John Bainbridge & Son), Cambridge, mineral-water manufacturer.

Bradford, William Cotton, Sinclair Road, West Kensington Park, professor of veterinary surgery.

Davies, John Edward Joseph, Tynypant, Cerrigydruidion, Denbighshire, farmer and medical assistant.

Gledhill, John, Halifax, druggist.

FIRST MEETINGS AND PUBLIC EXAMINATIONS.

Gabb, Leonard Arthur, Bewdley, Worcestershire, British wine manufacturer—September 27, Queen's Hotel, Birmingham; September 23, Town Hall, Kidderminster.

Gledhill, John, Halifax, wholesale druggist—September 20, Official Receiver's offices, Halifax; October 16, County Court House, Halifax.

Shaw, David (trading as the Worcester Mineral Waters Company), Worcester, aerated-water manufacturer—September 19, Official Receiver's office, Worcester; September 21, Guildhall, Worcester.

ADJUDICATIONS.

Davies, John Edward Joseph, Tynypant, Cerrigydruidion, Denbighshire, farmer and medical assistant.

Dudgeon, John Hepburn (formerly trading as Bennett, Nichols & Co., and now as Bennett & Co., and as the Oil Stores), Rivercourt Road, Hammersmith, Peachurch Street, City, and Sittingbourne, Kent, oil merchant.

Gledhill, John, Halifax, druggist.

Jeffcoat, James, London House Yard, St. Paul's Churchyard, and Leicester Villas, Willesden, chemist.

Leaney, Alfred George, Tisbury, Wiltshire, veterinary surgeon.

NOTICES OF DIVIDENDS.

Barrett, Arthur John (trading as Napoleon Price & Co.), Cumming Street, Pentonville, soap manufacturer—first div. of 2d. September 13; Moira Chambers, Ironmonger Lane, Cheapside, E.C.

Pratt, Frederick, Appledore, Northam, Devonshire, surgeon—final div. of 8s., and 4 per cent. interest, any day, Official Receiver's office, Taunton.

Ralph, Philip, Hereford, and Holmer, Hereford, chemist and druggist and farmer—second and final div. of 7½d. any day, Official Receiver's office, Hereford.

Trade Notes.

EFFERVESCENT BRAIN SALT is the title of a new preparation which Messrs. F. Newbery & Sons are introducing. It is of actual medicinal virtue, and is recommended for headaches, sea-sickness, nervous debility, &c. It is supplied to chemists unstamped for sale on the prescription of a qualified medical practitioner, but in all other cases stamped bottles only may be sold. A very effective show-card has been prepared for the article.

AN imposing shop has recently been fitted up at 243 Brompton Road, Kensington, by Messrs. J. W. Bygrave, for Mr. W. B. Trick, who carries on business there under the style of "Burrow's Drug Store." The shop is double fronted, 43 feet by 21 feet, and is probably the largest pharmacy in the West of London. The fittings are all of excellent workmanship, and the arrangements throughout are admirable. It is to be provided shortly with the electric light.

SADLER & CO. (LIMITED), MIDDLESBOROUGH.—The report and balance-sheet of Messrs. Sadler & Co., of the Cleveland Chemical Works, Middlesborough, made up to the end of June, states that the company's business has improved, both in quantity and value, notwithstanding competition of unabated severity. The year's operations show a gross profit of 15,127/4s. 11½d., and, after providing for interest on debentures, loans, &c., there remains the sum of 9,706/1s. 3d. net.

MESSRS. JOHN DAVIS & CO. (LIMITED), of 201 Old Kent Road, have produced their "Toilet Almanac" for 1889, and are ready with specimens to send to chemists. It is an elegantly produced little work, and is calculated to do credit and actual service to chemists in their business if they adopt it. It is noteworthy as a sign of the times that as a new feature a "brief list of patent and proprietary articles," to which reduced prices are attached, has been added. We are informed, however, that customers can have the almanacs without this feature at all, with something else in place of it, or they can, if they like, alter the prices quoted to suit their own businesses.

MESSRS. BRACHER & CO., of Wincanton, have sent for our inspection one of their improved automatic stills, which have been referred to in these pages on more than one occasion. Since we described and illustrated the original form of this still, about eighteen months ago, a number of useful improvements have been effected in it. For example, it consists of two pieces only, instead of three; the condenser is larger, and its power greater; and provision is now made to ensure that all the distillate is caught and carried off. The still is automatic in so far as the water which is used in the condenser flows into the boiler as soon as it becomes quite hot. Dr. Symes has spoken well of this still. For small pharmacies we can imagine no apparatus which could be more compact and better adapted for its work. The still is well made and elegantly finished.

Notes of Novelties.

SANITAS NOVELTIES.

THE Sanitas Company (Limited) have added to their collection of media for the application or administration of their popular antiseptic two new forms in which its virtues are combined. One is a box of Sanitas Antiseptic Lozenges, each of which contains five per cent. of soluble camphor of the formula $C_{10}H_{16}O_2$ (Kingzett). The soluble camphor has been isolated from the aqueous solution which results as the product of the atmospheric oxidation of terpenes in the presence of water. The lozenges are not agreeable, but we can easily believe that they offer an excellent means of administering an intensely antiseptic remedy in the many cases in which an anti-ferment is indicated. It is likely that they will be found valuable in throat and bronchial affections, in typhoid, cholera, dysentery, and probably in pulmonary complaints. The other article lately introduced by the company is a Sanitas Dog Soap, which is fragrant with the fine odour and contains 10 per cent. of sanitas. It is put up in 6d. tablets, each packed in a box, and should be an admirable application wherever there is any skin disease of dogs, as well as for an ordinary wash, to keep away fleas and improve the coat.

ALBUCAR TOILET PAPER.

A NEW toilet paper is introduced under the above designation by the Albucar Paper Company, Manchester, and is supplied to chemists through Messrs. S. Maw, Son & Thompson. It is of a peculiar and very suitable texture, and when moistened it exhales the aromatic odour of eucalyptus. It is supplied in packets or in rolls.

TAPP'S WATER-SOFTENER.

THIS is an ingenious sixpenny novelty which is likely to sell well in districts which are supplied with hard water. It is a porous earthenware cell charged with a water-softening material. The cell has simply to be placed in the ewer and kept there until it is exhausted, so that it is self-acting. It effectually softens the water, and is not so messy as the calcareous powders hitherto used. We have tried the charged cell and its contents separately, and find both to act well. The makers are Messrs. Tapp & Co., College Green, Bristol.

THE SCIENTISTS' CONGRESS AT COLOGNE.

THE EXHIBITION.

(From our Berlin Correspondent.)

THE scientific exhibition of the sixty-first Versammlung deutscher Naturforscher und Aerzte was opened in Cologne on Monday morning in the presence of the Lord Mayor, Professor Bardenheuer, and a great number of those interested in the institution.

The exhibition is so far unique in that no prizes, diplomas, or medals can be won by the exhibitors; it only affords an opportunity for scientists and manufacturers to attract the personal notice of other members of the scientific world.

The number of exhibitors is 316, and the various articles shown are separated into twelve groups, the most attractive of which to the pharmacist are those of chemistry, pharmacy, geology, and mineralogy. I shall mention only those exhibits in these four classes which seem likely to be interesting to your readers.

The products of Messrs. C. F. Boehringer & Sons, Waldhof, near Mannheim, are well known in your country, but it is noteworthy that among the exhibits we notice fluid extracts of various drugs. If a firm like the above-named begins the manufacture of fluid extracts, in addition to all their chemical products, it may be taken as a proof that in Germany the demand for the same is really existent, though quite unknown a few years ago.

Th. Canz & Co., Leipzig, bring forward their Mollin preparations. Mollin is super-fatted soap, which has several advantages as an ointment base.

Mr. Thomas Christy introduces to our notice his vegetable pets from various climes. With many of these we are already acquainted, but of others nothing is known as to their medicinal virtues, nor of course can be until they have been therapeutically and physiologically studied.

Eugen Dieterich, Helfenberg, exhibits all kinds of plasters, malt preparations, and the new iron preparations which have recently become fashionable, such as the albuminate, saccharate, peptonate, &c.

Bayer & Co., Elberfeld, exhibit phenacetin and sulphoral, which are the brands of these compounds introduced to English medicine by Messrs. May & Baker.

Richard Jacobi, of Elberfeld, is one of the chemists in Germany who apprehend the importance of keeping step with the progressive spirit which has dominated pharmacy in later days, and the exhibits which we find under their name are of considerable interest. Representing Messrs.

Barroughs, Wellcome & Co., this firm shows the Kepler preparations, the hypodermic cases, tabloid triturates, tabloids for hypodermic use, &c. A German handbook also furnishes a scientific description of the numerous specialities of the enterprising English firm, whose products and methods are models for imitation for many German manufacturers.

R. Jacobi also represents Dr. F. von Heyden Nachfolger, Radebeul, who has sent a number of new preparations. One of these is anisic acid, which is now recommended as an anti-rheumatic and anti neuralgic remedy. It is now produced at 50s. per kilo., which is regarded as low enough to justify the prediction of a general demand for it. We also find cresotinic acids, ortho-, meta-, and para-cresol carbonic acid, together with the cresalols or homosalols, and it is anticipated that as cresol is in many particulars superior to carbolic acid, so perhaps the therapeutical action of the cresol-salols may be found superior to that of the salols hitherto prepared from carbolic acid. "Salolum liquidum No. 1," melting on the skin, and "Salolum liquidum No. 2," liquid, are other interesting preparations.

Benno Jaffé & Darmstaedter show their lanolin (Liebreich) preparations, the "purissimum anhydricum," &c., and also anthrarobin, the latest substitute for chrysophanic acid.

Dr. Kade's Oranien-Apotheke exhibits new remedies generally, and creolin in particular. This latter is shown in various forms suitable for therapeutical use.

Among other interesting exhibits, G. Lepmann & Geffken, Hamburg, contribute a collection of Japanese drugs as used by the people of that country; G. Pohl, Schönbaum, various keratin capsules; C. Stephan, Treuen, collections of drugs and herbaria for the use of students, with new drugs, adulterations, &c., and such pharmaceutical preparations as cola wine, tasteless cascara preparations, &c.; H. Trommsdorff, of Erfurt, sozoiodol preparations; and Marquart's chemical apparatus, shown by Mr. Gerhardt, of Bonn.

In conclusion, it remains to recommend English houses to add their own specialities to future exhibitions of this society, which are the best means of introducing to the notice of the German scientific world pharmaceutical preparations of real value.

MESSRS. G. & G. STERN, of 11 Billiter Square, E.C., are at present issuing to the medical profession an eighty-eight page pamphlet, entitled "Pumiline, or Pumilio Pine Products." The pamphlet describes the uses of pumiline, and contains no less than 248 testimonials to its value from medical men, as well as analytical and press reports.

BEAUTIFUL TAR.

SONG OF AN ENTHUSIASTIC SCIENTIST.

AIR—"Beautiful Star."

BEAUTIFUL Tar, the outcome bright
Of the black coal and the yellow gas light,
Of modern products most wondrous far,
Tar of the Gas-works, beautiful tar!

Tar of the Gas-works, &c.

In fancy's ear thou seem'st to say,
"Follow me close, I am bound to pay.
On me experiments freely try;
For if there's a *multum in parvo*, 'tis I."

Tar of the Gas-works, &c.

Men told us once, with a cheek quite calm,
Of the things that the Arabs could get from the palm;

But that fraud botanic is distanced far
By the modern marvel, the black Coal-tar,
Tar of the Gas-works, &c.

House and garments, victuals and drink,
The nomad got from the palm, I think;

But as source of beauty, and bliss, and balm,
Coal-tar from the palm-tree must bear the palm.
Tar of the Gas-works, &c.

Protoplasm? Oh, that's played out;
The true protoplasm is Tar, no doubt.
As "promise and potency," Tar must take
What vulgar scientists call "the cake."
Tar of the Gas-works, &c.

There's hardly a thing that a man may name
Of use or beauty in life's small game,
But you can extract in alembic or jar
From the "physical basis" of black Coal-tar.
Tar of the Gas-works, &c.

Oil, and ointment, and wax, and wine,
And the lovely colours called aniline;
You can make *anything*, from a salve to a star,
If you only know how to, from black Coal-tar.
Tar of the Gas-works, &c.

'Tis found the basis of all things sweet;
Sugar is settled, and beet is beat;
The western root and the eastern cane
With ubiquitous Coal-tar content in vain.

Tar of the Gas-works, &c.

You can carry the stuff in your pocket or hat,
And it will not hurt you, or make you fat;
Of saccharine matters the wholesomest far
Is the stuff extracted from black Coal-tar,

Tar of the Gas-works, &c.

The very bees mistake it for honey!
'Tis a fount of pleasure, a mine of money;
And the Bounty question without a jar
Will soon be settled by black Coal-tar,
Tar of the Gas-works, &c.

Triumph, O Tar! Stuff half divine!
The world's whole interests soon will twine
Around thine essence the subtlest far,
Tar of the Gas-works, black Coal-tar—
Tar of the Gas-works, black Coal-tar!

Punch.

TRADE "SANITAS" MARK. DISINFECTANTS

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NON-POISONOUS, PLEASANT, AND BEST.
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Particulars sent on application to

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Letchford's Buildings, Bethnal Green, London.

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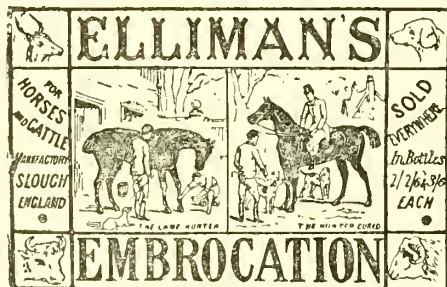
[2] BRITISH MEDICAL JOURNAL, August 25, 1883.

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SEE SEABURY & JOHNSON'S ADVERTISEMENT of
ABSORBENT COTTON LINT AND GAUZE on page 49.

EDITORIAL NOTES.

"THE ART OF DISPENSING."

SINCE the time when the sacred writer indited for the Levitical priesthood that formula for incense whose perfume has come down to us over all these ages, the pharmacist, or his representative, has in all countries and at all times been entrusted with one special duty, viz, the art of compounding or dispensing. A distributor of drugs he has been, and will remain; also the custodian of those potent substances which in careless hands become dangerous to the lives of good citizens; but above and beyond this the aim of his education and the object of his ambition are that he may become a dispenser of medicines. It is the fact, unquestionably, that a good dispensing business is what the overwhelming majority of chemists wish to have. This is the direction which pharmacy has taken in this country since the legislature began to place restrictions upon it, and the protection of this part of the business has even been proposed in more than one Pharmacy Bill which has not become law. These show the importance of the art of dispensing, yet the President of the Pharmaceutical Society recently declared that "it is remarkable how few men at the end of their apprenticeship know much about the art. A large part of that is due to the fact that they have not sufficient elementary knowledge of chemistry, botany, and materia medica, which form the groundwork or the rationale of every process." We venture to extend the period of insufficiency knowledge much beyond the completion of apprenticeship, for we have observed that there are many who have acquired that amount of knowledge of chemistry, botany, and materia medica which satisfies the requirements of the Pharmacy Act who are frequently puzzled with some problem in the art of dispensing. The truth is that during these twenty-one years in which qualification has been compulsory there has been a little too much endeavour to make the pharmacist a chemist, a botanist, or a pharmacognocist, and the relation of the underlying sciences to the art of dispensing has not been taught sufficiently. The consequence is that of recent years dispensing has become to examination candidates the most critical subject of the six that constitute the Minor examination, and the perennial flow of inquiries which come into our dispensing column shows that there exists in higher ranks a feeling of weakness regarding this subject. Yet there has not been any serious attempt in this country to formulate the fundamental knowledge in a permanent and readily accessible shape. We observe from the catalogue of the library of the Pharmaceutical Society that the library contains just half a dozen books on dispensing. One of these does not deal with the art, and four works by three authors are mainly collections of formulae, while the sixth is "The Art of Dispensing," which was issued as a treatise in THE CHEMISTS' AND DRUGGISTS' DIARY, 1885.

Materia medica—the subject which may be most conveniently compared to dispensing—is represented by works which occupy about ten pages of the catalogue; botany has about eleven and chemistry nearly fourteen pages, and each page comprises thirty items, more or less. Even the Latin of prescriptions is better provided with literature than dispensing is, and yet the art of dispensing is professedly the aim of pharmacy.

We are now in a position to announce the publication of a book which will, we believe, supply a want which has always been felt in the pharmacy, viz., one which deals exhaustively with the methods and processes involved in compounding physicians' prescriptions, as well as other matters which pertain to the art of dispensing. It has been our object in preparing this treatise to incorporate the best of the matter which was published in the treatise of 1885, and to which, it will be remembered, several of the leading British pharmacists contributed. It was not expected when that treatise was published that it would fulfil more than the special purpose for which it was intended; but we were compelled to reprint it by itself, and that edition having been early exhausted and the demand continuing, it is evident that the treatise has become an ordinary reference and text-book. The new edition, which will be ready on Monday, is not a reprint of the old work, but has been rewritten and greatly extended, new features being introduced, and the cream of the contributions by the eminent British pharmacists has been retained. The work is therefore one of peculiar value; it teaches the art of dispensing as it only can be taught, viz., from practical experience at the dispensing counter with prescriptions which are real prescriptions, and difficulties which have been encountered. History repeats itself in the pharmacy as well as in the larger spheres of life, and the repetition of pharmaceutical history lies mainly in the recurrence of dispensing difficulties. For that reason "*The Art of Dispensing*" becomes an invaluable addition to the chemist's library, and to the student who has little opportunity of acquiring that practical skill which a varied supply of prescriptions affords the book will continue to be a favourite. We shall take another opportunity of giving more fully an epitome of its contents.

PREScribing CHEMISTS.

No sooner are the London daily papers deprived of their regular provision of Parliamentary squabbling than their able editors cast about for a subject to catch the public fancy. The alleged failure of marriage which the *Telegraph* hit upon has been undoubtedly the success of the season in this respect; the daily opening of churches and the treatment of the insane are topics which have secured some solemn attention in the *Times*; while the grievances occasioned and suffered by prescribing chemists have attracted a number of abusive missives in the *Chronicle*. This controversy arose on some remarks by Mr. Braxton Hicks, a Surrey coroner, in regard to the prescribing for a child by the unqualified assistant to a chemist at Putney. It was abundantly proved that the assistant's prescribing had nothing to do with the death of the child, and as he was not a chemist anyhow the occasion seemed unusually inappropriate as the basis for all this superstructure. But the coroner seems to have had a burden to deliver, and a person with the imposing signature of "A.E.P., M.R.C.S., L.R.C.P. Lond." emphasised his remarks in a funnily illogical letter. This gentleman, who had clearly not read the evidence, found in the case "another instance of the utter recklessness of chemists." "No doubt," said he, "chemists are a necessity in their way, but when it comes to prescribing for serious cases it is high time that the

practice should be stopped." And he hoped that somehow chemists would be compelled to mind their own business, and the ignorant poor prevented from "being vainly relieved by plastering chemists." How to be "vainly relieved" was not explained. "Pharmaceutical Chemist" wrote a sensible reply to A.E.P., pointing out that a chemist had just the same right, no more and no less than any other layman, to give medical advice. Then rushed in the Percy and the Douglas followers on both sides. As far as can be judged the correspondents have been almost exclusively doctors and chemists; and these, as a rule, have confined themselves to calling each other names. Neither side seems to have appreciated how contemptuously the public must have regarded the struggle for the poor patient's diseased body. "M.D." says after the education he has gone through "it is only right" he should be protected from the prescribing chemist; "One not Infallible" complains of patent-medicine vendors, co-operative stores, oil-shops, and surgeons' retails, and plaintively enquires, "Where are chemists to get a living?" Well, the law provides a living for everybody, but it is perhaps not such as would satisfy either of these learned correspondents. But both would do well to shake themselves free of the idea that anybody is bound to take special care of them or of their businesses.

A number of other chemists have followed the same line of argument, and indicated their determination so long as the grocer sells pills, and especially if the doctors sell drugs, to take their revenge by prescribing for the public. But "J.W." (consulting herbalist), a "Prescribing Chemist," and others, took higher ground, claiming for themselves peculiar gifts as prescribers. After all, said the latter, the only true school in medicine is experience. The possession of a family, too, he seemed to think, was a valuable training, and with these advantages, combined with his special education, he had prescribed for thirty years to the mutual benefit of himself and the public, and during all that time had never been asked to sign a certificate of death for any of his patients! "Chemicus, M.P.S." then contributed an entirely erroneous account of the Shepperley case. "If I mistake not," he said. As he did mistake all through, his letter was rather worse than useless. But next, "Pharmaceutical Chemist" got in well with his right on the dispensing doctor, whose medicines are made up by his groom. This was followed by a note from "A Victim," who complained how the doctor, who had become a friend of the family, pitched in his bottles of medicine with alarming rapidity, so that he had counted ninety empty bottles waiting to be removed. "What wonder then," he asks, "if, when suffering from ordinary indisposition, I prefer to consult an educated, intelligent chemist, rather than my own doctor, who would simply increase my bill to an extent quite out of proportion to the nature of his services?" Soon the medical champions got busy again. They rather avoided the accusation of the groom and the gardener filling up spare time by compounding, but they made the most of their old friend "Diagnosis." They told of chemists who had mistaken small-pox for impurity of blood, and scarlatina for sore-throat, and they showed that the chemists' examinations did not include anatomy or physiology. Then the chemists replied with stories of prescribers' errors. One correspondent, who assumed a judicial and oracular tone, claimed to have special opportunities of knowing the inside of things, because he is a chemist's apprentice now, and hopes to be a medical student next year; "so," said he, "I have a good opportunity of witnessing in actual practice that which others can only hear of through the medium of newspaper correspondence." "Fair Play" then neatly asked why, if prescribing chemists do so much injury, do not their victims come forward in the controversy? It may be, of

course, that, like the Spaniard who had no enemies when he came to die, "for he had killed them all," the prescribing chemist does his work too thoroughly; but this is hardly charged against him. On the other hand, the most effective result of the correspondence has been to show the public how much the risks of medicine are increased by permitting the person who prescribes to also dispense, and giving him authority to conceal the effects of his errors. This was worth bringing out, and it is to be hoped the public will mark and digest the consideration. If anything else is clearly established by this correspondence, it is that wonderfully little harm is done by chemists prescribing; that the custom is a necessary one is proved by the fact that it is a custom, and could be proved by the experience of all chemists, and especially by that of chemists who dislike and try to avoid the practice. Hundreds of thousands of people are relieved annually from troublesome little complaints at a very small cost by the judicious sale of suitable medicines by chemists, and neither the people nor the Legislature will ever allow this obvious convenience to be sacrificed to the hungry ambition of the lower class of medical men. All the same, we hope it will not be assumed that the prescribing chemists who boast of their special education and fitness, and talk about "their patients," will be looked upon as fair representatives of the pharmaceutical body, who do not claim more competence for treating disease than a familiarity with the nature of drugs has given them.

BANKRUPTCY BUSINESS.

THE report of the working of the Bankruptcy Act of 1833 up to the end of 1887 has been published by the Board of Trade this week, and deserves the very close attention of all persons interested in commercial progress. When this Act came into operation in January, 1834, its effect in reducing the number of bankrupts gazetted was very marked indeed. Under the Act of 1869 the number of cases had averaged annually 8,757; in 1884 the number fell to 3,260. But as time went on insolvents seemed to gain courage, and in 1885 the number rose to 4,333; in 1886 to 4,816, and now in 1887 it has again advanced to 4,839. Moreover, comparing 1887 with 1886, it appears that the gross estimated liabilities have increased from 7,913,871*l.* to 8,935,825*l.*, or nearly 13 per cent., while, on the other hand, the estimated assets have decreased from 2,855,160*l.* to 2,667,162*l.*, or nearly 7 per cent. The percentage of assets to liabilities has fallen from 36.1 per cent. to 29.8 per cent.

This gradual reaction is not surprising. Beyond the fact that debtors are becoming more acquainted with the law, and consequently perhaps less afraid of it, there is also the consideration that many of those who were afraid have been at last forced to take refuge in the Court. That circumstance would naturally tend to reduce the proportion of assets as well as increase the number of bankrupts as years go on.

That a substantial improvement has been effected would seem to be established by a table published in the report which shows the net estimated loss to creditors, obtained by deduction of assets from liabilities, in every year from 1870 to 1887 inclusive. Under the 1869 Act the loss varied from 11,000,000*l.* to 23,000,000*l.* per year, and averaged 15,847,121*l.* In the year 1884 the estimated loss was nearly 11,000,000*l.*, three-fourths of which accrued under the 1869 Act. In 1885 the loss was estimated at 6,877,712*l.*, in 1886 at 5,919,802*l.*, and in 1887 at 7,114,905*l.*, an average of 6,637,139*l.* Against these favourable-looking figures, however, has to be set an alleged great increase in private arrangements. What these

have been there has been no means of learning, but from the beginning of this year these have had to be registered to be valid. The Inspector-General in Bankruptcy does not think that the comparison to be drawn from the figures we have just quoted will be materially affected by the statistics to be drawn from the records of these deeds of arrangement. He points out there have always been arrangements outside the Bankruptcy Act. But he has ascertained that up to June 30 last the number of private arrangements amounted to 68 per cent. of the number of receiving orders. The estimated liabilities under these arrangements are at the rate of about 4,280,000*l.* per annum, while the estimated assets are at the rate of about 2,340,000*l.* If due allowance is made for over-estimates and for the expenses of realisation, in the same manner as has been done in the case of bankruptcy statistics, the amount of annual loss arising to creditors under these arrangements would be at the rate of about 2,720,000*l.* per annum. It is of course impossible to say whether, or to what extent, this annual loss exceeds the corresponding loss in the years prior to the passing of the present Bankruptcy Act, but if these figures can be at all relied upon as representing a fair annual average, it is perfectly clear that after adding all the losses sustained by creditors under private arrangements to those sustained in bankruptcy, the total amount will fall far short of the annual losses from bankruptcy alone prior to 1883.

The Inspector-General does not consider that if the 1883 Act has occasioned an increase in the number of private arrangements, this is a result to be regretted. Such an effect is only a proof of the increased unpopularity of bankruptcy among debtors; and if, as an indirect result of the Act, debtors are induced, while they are still in a position to pay a substantial dividend, to effect a voluntary arrangement satisfactory to all their creditors, this is surely a proof of the efficiency of the Act rather than otherwise. But the Inspector points out, as he has done in previous reports, that there are at present no statistics available in reference to the debts of companies which go into liquidation. This is a defect which should be rectified in the pending legislation regarding joint stock enterprises. He also shows that the provision of the present Act which ignores assignments made more than three months prior to adjudication works to the injury of creditors generally; he argues that a bankrupt's discharge ought to be influenced by the proportion of his assets, so as to discourage the attempts of insolvents to trade up to the latest possible moment; he would repeal the provision which limits the right of petitioning to creditors who collectively or individually claim to the amount of 50*l.*; and, lastly, he seems to doubt whether juries will ever allow the efficient enforcement of the clauses which provide for the punishment of fraudulent bankrupts. Out of seventy-eight prosecutions in 1887 twenty debtors absconded. After the order was made three were discharged at the preliminary examination before magistrates, in seventeen cases juries acquitted or did not agree, and in thirty-two only were convictions obtained.

What are the causes of failure? An "extremely small" proportion occur, says the chief inspector, from unforeseen accidents and misfortunes—such, for example, as personal ill-health, losses from fire not covered by insurance, floods, death of cattle, want of work, adverse result of litigation, breach of trust on the part of third parties, and the unexpected failure of debtors in good credit. Inexperience in business, and incompetence to conduct it, the granting of unreasonable credit, and the undertaking of imprudent contracts, and over-competition, leading to the carrying on of trade deliberately at a loss, often without capital to commence with, and after the debtor knows that he is insolvent—

these are by far the more frequent causes. In these cases the debtor and his family live upon the proceeds of goods which have not been paid for, and this course of conduct is generally aggravated by an altogether inadequate system of book-keeping, and sometimes by an entire lack of it.

It becomes, therefore, an important matter to inquire how far the bankruptcy laws as constituted and administered tend to check preventible causes of insolvency.

The penal provisions of these laws, as embodied in the Debtors Act, do not operate in this direction at all. They deal only with fraudulent removal and concealment of goods, falsification of accounts, and other matters of deliberate fraud, and even in these cases their force is much diminished by the practical necessity of proving intention to defraud. But with questions of reckless trading and abuse of credit the Debtors Act, or criminal branch of bankruptcy law, does not even profess to deal.

The Inspector-General does not think that such drastic methods of dealing with commercial irregularities as prevail in some Continental codes would find much favour in this country; but he argues that the benefits offered to debtors by the bankruptcy laws should be largely restricted to cases of misfortune, and that these laws should not be used for the purpose of relieving debtors from obligations which they have incurred with a reckless disregard of prudential considerations, and in defiance of the recognised principles of commercial ethics.

Fraternal Greetings. The British Pharmaceutical Conference's fraternal salutes to its elder brethren do not seem to be returned. Last year a telegraphic message was sent to the German Apotheker Verein, but we heard of no acknowledgment of it; and this year, as the American Pharmaceutical Association was in session at Detroit at the same time with the British Conference, a similar message was cabled thither, but again no reply was reported. The novelty of those cabled messages has evidently worn off, and with hard times gradually enveloping the various associations it may be as well to drop this expensive amusement.

* *

Dr. de Vrij and Pharmaciennes. One of the heartiest laughs which the Bath Conference enjoyed was good-humouredly indulged in at the expense of Dr. de Vrij, whose European reputation as a pharmacist is so firmly established that he can well afford to treat that frivolity. In reply to Mr. Benger's questions about pharmaceutical training in Holland the doctor mentioned the interesting fact that among the qualified assistant pharmacists in Holland there are a great many young ladies. "I know some of them," he added, "whom I would prefer to a male assistant." Mr. Benger gave just enough emphasis to this naïve confession to convey its effect, and the meeting warmly applauded the good doctor's taste.

* *

The Side Show. The *Yorkshire Post* was polite enough to liken the Pharmaceutical Conference at Bath to one of the smaller shows which at country fairs "congregate under the wing of Wombwell's mammoth menagerie." The conferees themselves probably felt more like the minister in the Isle of Man who used to pray for "the inhabitants of this country and for those in the adjacent islands of Great Britain and Ireland."

* *

The Carbolic Acid Record. Two more deaths from carbolic acid in Liverpool. One was that of a young woman named Mary Jane Murray, of Upper Frederick Street. There have been three deaths from carbolic acid poisoning in that street alone within the last few weeks. The other death occurred on Tuesday. A woman named Bridget Walsh, who had been drinking heavily, having taken the poison with suicidal intent.

William Hopkinson, a woolsorter at Cleekheaton, looking out for a drink, took up the ever-handy black bottle containing carbolic acid and paid for his rashness with his life. "Death from misadventure," said the jury. "Death from Privy Council negligence," say we.

Robert Winstanley, iron dresser, Salford, seventy-five years of age, was another victim. He drank from a bottle containing carbolic acid, intending to take cough mixture, and died in four hours.

In the Royal Hospital, at Belfast, Miss Torrens, a nurse, gave a patient named James Jeffers a draught of carbolic acid in mistake for a black draught. The man said, "You have given me the wrong medicine," and fell back insensible. The nurse tasted the stuff and discovered her error. The man died an hour later and the nurse became very ill.

Lastly, we have a report of a suicide by carbolic acid and rat poison combined at Newchurch, in Yorkshire, by a widow named Hayne last week. She was found to have been in an unsound state of mind.

* *

The Weather Plant. The Prince of Wales and the Crown Prince of Austria went on Tuesday to see Professor Nowak's famous weather-plant which has been attracting a great deal of attention in Vienna for some weeks past. During the past one hundred days more than 40,000 experiments have been made with different plants, and these have established the trustworthiness of this curious plant, which is not a mimosa, though it looks somewhat like one. The plant is a legume, commonly called the "Paternoster pea," but known in botany as the *Abrus peregrinus*. It is a native of Corsica and Tunis. Its leaf and twig strongly resemble those of the acacia. The more delicate leaves of its upper branches foretell the state of the weather forty-eight hours in advance, while its lower and hardier leaves indicate all atmospheric changes three days beforehand. The indications consist in a change in the position of the leaves, and in the rise and fall of the twigs and branchlets. The plant must have had a lively time of it this summer.

* *

Editorial Risks. The Spanish Court of Appeal the other day confirmed a sentence of the Criminal Tribunal of Barcelona, convicting St. Francisco Puigpiqué, editor of the *Restaurador Farmaceutico*, the oldest Spanish pharmaceutical paper, of having libelled and endeavoured to seriously injure the character of St. Sebastian Ferrer, the head of a well-known Barcelona firm of druggists. It appears that Sr. Puigpiqué had denounced in his paper some alleged proceedings of the firm of Ferrer, calculated, in his view, to incite pharmacists and medical men to acts unworthy of their profession and integrity. The plaintiff seems to have satisfied the courts that this indignation was baseless. But now the whole of the Spanish pharmaceutical press, with a chivalry which would no doubt be emulated nearer home in similar circumstances, embraces the cause of its unfortunate member, and the accounts given of the case in the various Barcelona and Madrid trade organs do not appear to err on the side of strict impartiality. Be this as it may, Sr. Puigpiqué has been cast into prison for four months and two days, fined 500 pesetas, or 20*l.*, and is to be banished for the period of three years six months and twenty-one days from within 25 kilometres of the city of Barcelona. He is also ordered to pay the entire costs of the law suit and the appeal. Apparently Sr. Puigpiqué takes his imprisonment like a man and a Castilian, addressing encouraging notes to his admirers outside the dungeon walls, and occasionally receiving within his cell deputations of Spanish pharmaceutical associations bearing addresses of admiration. Sonnets to the pharmaceutical martyr appear in rival journals, and his own paper heads an eloquent denunciation of the plaintiff and his backers with the significant heading—"Aux armes, citoyens!" A "Puigpiqué fund" for assisting the imprisoned editor in defraying the law costs and fines has also been set on foot. Simultaneously another pharmaceutical editor has put his foot into it in Austria, where, however, the law proceeds in a milder but no less efficient form against peccant trade journals. The *Droguisten Zeitung* of Sept. 8 is compelled to devote the most valuable advertising position on its front cover to an official announcement stating that, "in the name of his majesty the Emperor" the issue of August 8

has been confiscated, and that all copies seized have been destroyed by the police. The reason given for this summary proceeding is that the authorities charged with the execution of the press law have had their attention called to an article in the issue in question, criticising adversely the official conduct of a Government employé, to wit, the local medical officer for the town of Eger, and holding him up to public odium, thereby (in the opinion of the said authorities) endangering the public peace. We, in England, can heartily sympathise with our Continental colleagues in their troubles, knowing, as we do, how even in our own country, where the press has so long enjoyed an amount of freedom unknown on the Continent, there are still high minded members of the drug trade who would not shrink from the duty of extinguishing an editor for the impartial exercise of his functions as a public journalist. Like their prototype, Sir Barnes Newcome, who regretted that he could not treat an inconvenient journalist in the same way in which his friend, the Austrian count, treated "those beastly newspaper fellows," these gentlemen would make short work of some kinds of reporting if they had the power.

* *

The Milan Congress. We last week received an official communication from the President of the Milan Pharmaceutical Association, informing us of the postponement until September, 1889, of the seventh International Pharmaceutical Congress. This step has been necessitated, notwithstanding that arrangements for the congress were already pretty far advanced, because the technical and scientific organisation could not be completed in due time, the organising committee not having received all the necessary documents relating to the papers to be read before the Congress. Another reason which weighed with the committee was the fact that during the present year an exceptionally large number of pharmaceutical congresses have been held elsewhere. As soon as the organising committee for next year's congress is definitely constituted, a circular will be issued giving the names of its members and the precise date of meeting.

* *

How Legends Grow. The Paris *Journal de la Droguerie* announces that "a fire of extreme violence has destroyed the great factory of chemical products of Mr. Howard, at Stratford (England). There were no deaths to deplore, but there were numerous injured persons." That is how French journalists write history.

* *

Physic or Beverage. Some one, described in the local paper as "the tenant of 183 St. James's Street, Burnley," applied to the magistrates for a wine licence. His representative said he only wanted to sell Coleman's Meat and Malt Wine. The opposing barrister said, as the applicant only seemed to want to physic his customers, he should not offer any serious objection, but the applicant ought to have appeared in person.

REVIEW OF THE DRUG MARKET.

(From Messrs. Gehe & Co.'s Semi-Annual Report.)

ALMONDS.—During the season now drawing to a close, there has been very little alteration in the position of this article. Moderate prices ruled for Puglia and Sicilian almonds even when the long-continued drought in Italy caused apprehension as regards this year's crop. The coming harvest is expected to yield about two-thirds of the heavy crop of last year, but the usual speculative sales not having been made this season, the price for the new almonds has not yet been fixed; it is not believed, however, that the article will see a rise.

BALSAM COPAIBA.—The expectation that the very high rates current for copaiba balsam would attract large supplies has proved correct. Of Bahia and Angostura, as well as of Maracaibo balsam, heavy arrivals have taken place at Hamburg, but the price only declined by about 5*d.* per lb.,

the arrivals in question having been taken up by speculators, and an effort is even being made to force the price of genuine Maracaibo balsam up again. The stock now available may probably be sufficient to supply the consumption, excepting thin Pará balsam, which is comparatively scarce, but if the demand should become lively speculators will find no difficulty in forcing up the price as soon as the arrivals cease, and the first hand is cleared out.

BORAX.—There is no change in the value of the refined article. The British refiners continue to offer their brands f.o.b. German ports at the same quotations as the German makers. But as the British refiners have ceased to quote their borax delivery free to the inland towns of Germany, as they used to do, and the Italian and French producers occupy themselves solely with the feeding of the neighbouring markets, the German makers have been enabled to keep their quotations unchanged, especially so because their goods find a ready market. The American borax-producers, whose industry dates from the discovery in 1873 of extensive borate deposits in Eastern California and Southern Nevada, have had great difficulty since a long time to cope with the European refiners in the United States markets. The contemplated abolition of the 5*c.* duty on foreign borax in the States would kill their industry altogether.

CANTHARIDES.—The stocks of cantharides in the centres of Hamburg, London, and New York have been nearly all bought up at receding values, but some supplies may possibly still remain in Russia. If so, the owners will certainly try to keep the new crops' flies at a high figure, all the more so because the recent catch is said to have been not too large a one. Meanwhile Roumania and Hungary have supplied very large quantities of the flies, while Sicily only offered inconsiderable quantities. If buyers should hold aloof more or less, Russian flies may, perhaps, be offered at still lower rates.

CASCARILLA remains dear, while the quality of the London arrivals leaves to be desired. Recently a shipment, partly of very fine quality, arrived direct at Hamburg from South Africa (?). It is thought not impossible that in future this drug will regularly find its way to Hamburg direct.

GUARANA remains moderately cheap. But it appears that the stock here will be soon exhausted, and it is scarcely likely that anything further will come in from Brazil, as the article fetches better prices there than here.

GUM ARABIC.—No change whatever has occurred in the position of Turkey gums during the last five months. The arrivals of true Soudan gum have ceased altogether, and Gehzirah gum also, which is generally exported from the Red Sea ports, and is best fitted as a substitute for real Kordofan gum, becomes more and more scarce. A similar kind of white gum is now brought into commerce from Mogadore, and this may perhaps be able to fill the place of Gehzirah. Whether the Italian efforts to open up trade with Kassala *via* Massowah are likely to be successful cannot as yet be judged, nor is it possible to say whether Soudan gum would find its way by that route. In the meantime the market remains dependent upon the principal substitutes, especially Senegal gum. Unfortunately it appears that the Senegal crop is short this season, the "Bas du Fleuve" gum having only yielded from 8,000 to 10,000 bags, against 16,000 last year, and 22,000 in good-crop years.

GUM ASAFOETIDA.—The demand being a limited one, prices have hitherto remained moderate, but the London stock is small, and, as it consists principally of common and stony qualities, good grades will command high prices during the winter season (the period of largest consumption) unless new imports should take place soon.

INSECT FLOWERS.—It is a matter of notoriety that last season Dalmatian insect flowers rose to very high prices indeed. On June 1 the Trieste stock had fallen to 8,900 kilos., less than ever before. The hope that flowers of the new crop would be obtainable more cheaply proved false, barring a few occasional purchases, and the present quotations of 300 fl. for closed, 370 fl. for half closed, and 235 fl. for open flowers are the highest ever known at the present time of the year. There is no doubt that the Dalmatians are keeping back their supply in order to push prices still higher if possible, while

On the other hand, the buyers confine their purchases strictly to actual requirements. The arrivals of flowers at Trieste have been 112,500 kilos. only, against 152,500 kilos. the year before. The deliveries were 56,700 kilos. and 135,600 kilos. respectively. If the orders should continue to come in so sparingly as they do now, holders will ultimately have to give way. Persian flowers are not to be had at present, although fresh arrivals may be about to come in, but it is said that in Persia higher prices than usual must be paid.

MEDICINAL HERBS.—These herbs, similarly to the flowers, have suffered much by the unfavourable weather. With a few exceptions, however, they have arrived in fully sufficient quantities, but buyers must not be too exacting as regards quality. Among the narcotics *Hyoscyamus* and *Belladonna* specially are scarcely to be obtained in selected qualities. *Digitalis* has been sufficiently abundant, and so has *Conium*, but the latter is deficient in colour. *Aconite* is very scarce this year, the prolonged existence of snow on the Alpine range having retarded its gathering. *Stramonium*, of which the use appears to be on the increase, has been fairly plentiful, in moderately good quality. Of the cultivated herbs the mints have been conspicuous for their cheapness. The cultivation of these plants in Thuringia has been on a very extensive scale, and both *Peppermint* and *Spearmint* were suddenly thrown on the market in excessive quantities; but the herb is small of leaf and dark in colour. *Melissa* also shows an undesirable quality, although the price, like that of *Salvia*, is a moderate one. The reports concerning *Majoram* were at first unfavourable, but the recent improvement in the weather will probably improve the growth. The so-called bitter herbs, *Herba absinthii*, *Centaurea minoris*, and *Circaea benedicti*, have suffered least. *Trifolium* also has been gathered in sufficient quantities. *H. adonidis vernalis* seems again to be falling into desuetude—at any rate, the demand has been very light. *H. bursae pastoris*, recommended as a substitute for ergot, only excites an occasional interest. Of *L. fanfarum* very little has been brought to market in good quality, but *Galeopsis* has been favourably affected by the wet July weather. *Hepatica nobilis* is offering abundantly, but there is no demand for it. Hardly anything has been brought forward in *H. polygala amara*. For this and similar herbs, which it is very difficult to gather, the gradual extinction of the old experienced herb-gatherers is a great drawback. The extract prepared from the common hemp has recently been in request for medicinal purposes.

MUSK.—Notwithstanding the extreme prices paid in China for *Tonquin* musk (fine brands being held as high as 250 taels at the beginning of the year), the shipments from Hanghai during the first three months have been very large, viz., 1,266 caddies, or half of the total of the 1887 exports. The value of the article in Europe has thereby become depressed, and Pile I, which in the autumn of 1887 fetched 20s. in London, declined in March to 93s., and thence to 82s. During the second quarter of 1888 the exports from China were only 465 caddies, and as the principal time for the consumption is now approaching, prices may easily advance. *Tabardine* musk has come to hand from Siberia in very small quantities, and its prices can easily be maintained.

ORANGE AND LEMON PEEL.—Malaga peel has been offering in more abundant quantities than in former years, and the value has consequently fallen lower. But peel from southern France, "free from parenchyma," has only been offered sparingly, and may soon become dearer, the orange growers having suffered much damage this year, so that there will be a scarcity of fruit next season.

SPERMACELE.—The quotations for this article have been falling gradually, if slowly, the former New York price of 10 cents having in the space of a twelvemonth receded to 7 cents. The future course of the article must depend upon his year's catch, concerning which no information has been received yet.

TONQUIN BEANS have become a little cheaper. This article has for years been under the control of New York firms, and the shipments to Hamburg are now much smaller than formerly. The consumption likewise has much diminished since cumarin and other perfumes have been used as substitutes.

Trade Report.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., September 13.

A VERY good amount of business has been transacted on the drug and chemical markets since our last report, and prices in most instances are tending higher. As regards chemicals, citric acid is rather higher in price, while oxalic acid and, consequently, sal acetos are quoted dearer, owing to a change in the tactics of the combined manufacturers. Mercurials have followed the improvement in quicksilver, while sulphate of copper is likely to advance in sympathy with the metal. Quinine is also firmer, but for the last two days the price has remained stationary. Messrs. Bayer's sulphonal has been reduced in price. The heavy chemicals, sodas, bleaching powder, and chlorate of potash, are generally firmer, but cream of tartar continues to slowly recede. In the drug market American peppermint oil has attracted attention and sells at a decided advance; oils of clove and saffras are also dearer. Gamboge, chiretta, tolu balsam, and balsam Peru are all reported on the move upward. Fenugreek seed and China soy are also quoted higher. On the other hand there is an easier feeling for the Mitcham oils (peppermint, lavender, and chamomile). Cassia oil is offering cheaply for forward delivery, and Belgian chamomiles and Dalmatian insect powder appear about to change for the lower. East Indian gum arabics are stagnant, with the exception of Ghatti, which is a little dearer. Spices remain generally stationary, ginger being rather lower. Fixed oils, however, are improving very quickly, more or less important advances having occurred in cocoanut, castor, cotton, linseed, rape, palm, and olive oils. Petroleum, turpentine, and tallow are also better. Turmeric has been forced up by speculators, but shellac scarcely maintains last week's advance.

THE VICTORIAN TARIFF.—The revenue of the colony of Victoria for the past year shows a surplus of 837,415*l.*, and the Government propose to make various changes in the tariff, not, however, to any great extent trespassing on their existing protectionist policy. Among other goods on which duty is now paid, but which it is proposed to admit free, are—Carbolic, oxalic, and picric acids, aloes, cannabis Indica, faba amara, grains of Paradise, quassia, and iodide and bromide of potassium.

THE NEW SWEDISH TARIFF.—A new Customs tariff came into operation in Sweden last July. Under its provisions all crude drugs and pharmaceutical preparations (Apotheker waaren), essential oils, dyewoods, and raw perfumery materials, mineral waters, are duty free, but chemical-technical preparations, not otherwise specified, pay 5 per cent. *ad valorem*. Aniline dyes, indigo, and cochineal will be made free from January 1, 1889, and pay a small duty until then. Painters' colours, prepared with oil, pay 5 öre per kilo., all other colours are free. Cardamoms, nutmegs, and mace pay 1 kr. 20 ö. per kilo.; liquorice juice, 12 ö. per kilo. (roots are free); cloves, 50 ö. per kilo.; perfumery, put up, including perfumed waters, 2 kr. per kilo. gross weight; quicksilver, 35 ö. per kilo.; perfumed soap, 28 ö. per kilo. gross weight; other soap, 10 ö. per kilo.; vanilla, 13 kr. per kilo.; cinnamon and cassia lignea, 84 ö. per kilo.; pepper, 30 ö. per kilo.; gums and resins of all kinds, including shellac, are free.

THE BOARD OF TRADE RETURNS FOR AUGUST again show a considerable improvement as compared with those of

August, 1887. Our imports were :—30,006,140*l.* last month, as against 29,699,020*l.* in August, 1887, an increase of 307,120*l.*, or, say, about 1¼ per cent. The principal increase is in metals and manufactured articles, but our imports of raw materials have decreased rather. The advance in our exports is much more considerable, the figures being for produce of the United Kingdom, 21,187,759*l.* in August, 1888, against 19,788,299*l.* the year previous, thus showing an improvement of 1,399,460*l.*, or fully 7 per cent., the bulk of this being in manufactured articles. Our re-exports of foreign and colonial produce have advanced from 4,162,080*l.* to 5,566,555*l.*, or fully 34 per cent.

THE NEED FOR AN EXTENSION OF THE MERCHANDISE MARKS ACT to the British dependencies abroad was strikingly illustrated by a communication made to us this week by a gentleman recently returned from the Continent. In the course of his sojourn in Hamburg our informant had frequent occasion to visit the warehouses in that town where spirits are stored for export, and his attention was drawn to cases purporting to contain "Scotch whisky," destined for shipment to an extra-European market. Our informant ascertained that large quantities of this "Scotch whisky," which was packed and labelled in almost exact imitation of a well-known British brand, are manufactured in Germany, from the delectable beet and potato spirit, which is one of the choicest products of the Fatherland, and shipped in the manner described, at an invoice price of 6*s.* 6*d.* per dozen bottles, packing included. The latter represents a value of 3*s.* 6*d.*, so that 3*s.* remain to pay for the "whisky" and the manufacturer's profit. The extension of the Merchandise Marks Act to all British dependencies would of course put a stop to this roguesry so far as these markets are concerned.

THE DIRECTOR OF CUSTOMS IN JAPAN has issued an order to the effect that, commencing on October 1, 1888, all dutiable goods imported into Japan the value of which has been declared in foreign currency shall pay duty on the basis of the average rate of exchange for sight bills obtaining in Japan during the preceding three months. The Japanese Customs will issue quarterly tables of the average exchange, which will serve to calculate the duty. In the present state of the silver value it is thought that this new arrangement will be equivalent to an increase of 30 per cent. all round in the duties on all articles taxed *ad valorem* which are declared in the gold standard.

THE CZAR AND THE RUSSIAN PETROLEUM TRADE.—It is announced that, in view of the contemplated visit of the Czar to Batoum, the whole of the foreign residents and workmen there have been ordered to quit immediately. Most of the petroleum factories have in consequence almost ceased work, and vessels which are loading petroleum will, in all probability, have to leave with only part cargoes. It is expected that this state of things will last till the end of October.

ACID (CITRIC).—The market is rather better since last week, especially for forward delivery, which may be quoted at 1*s.* 6½*d.* per lb. Spot stuff may be bought at less, however, say 1*s.* 6¼*d.* buyers, and 1*s.* 6½*d.* per lb. sellers. The manufacturers' prices are rather above these quotations.

ACID (NITRIC).—The price of pure 1500 is now 90*s.*, and of commercial 1360 32*s.* per cwt.

ACID (OXALIC).—The combination between the English and German manufacturers, which was concluded in the end of 1886, but has virtually been a dead letter lately, has again come into active operation, with the result that the price of the acid has been advanced to 4*d.* per lb., and *Sal acetos* is now quoted at 7*d.* per lb.

ACID (TARTARIC) quiet at 1*s.* 5½*d.* for *Foreign*, and a fraction more for *English* brands.

AMMONIA SALTS.—*Carbonate* quiet at 4*d.*, less a discount. *Sal ammoniac* in good demand at 34*s.* for first, and 32*s.* for second quality; *Sulphate* quiet at last week's quotations.

ANISE.—We hear from Spain, with regard to the crop in

that country, that before the actual gathering an abundant yield was expected, but now it is said that at the time when the grain was decorticated unfavourable weather set in, and thus a medium yield only was obtained, while the quality of the seed also does not quite come up to expectation. Such, at least, is the unanimous report given by the farmers; but not too much reliance should be placed upon it, and our correspondent seems rather inclined to believe that the alarmist rumours are merely the usual stale farmers' tricks, resorted to in order to find some excuse for the high prices which they ask from the French buyers, who, as is generally the case, show themselves much too eager to buy. This view is borne out by the fact that large quantities are offering for forward delivery in three or four weeks' time at lower prices than those now ruling. Small lots of *La Mancha* anise were arriving at Valencia early in September, but they were held at very high rates, viz., 46*s.* per cwt. f.o.b. Valencia. *Andalusian* anise, which is larger in grain than *La Mancha*, but of inferior quality, is held at 42*s.* per cwt.

ARSENIC remains firm at 12*l.* 15*s.* per ton for white powder.

BALSAMS.—From Hamburg a rather better demand for *Copaiba* is reported. We have just received a consignment of 20 cases here from that port, but our market as well as Liverpool remains tolerably quiet, say at 2*s.* 5*d.* for fine Maranh. Higher prices are reported to have been paid for *Peruvian* balsam in London (4*s.* 3*d.* per lb. is spoken of), but at the same time a heavy arrival of 80 cases is reported to have demoralised the Hamburg, or principal, market, so that the reported advance here appears at least doubtful. *Tolu* is said to be dearer in America, and is now quoted here at 1*s.* 7*d.* per lb.

BISMUTH SUBNITRATE, B.P., is quoted at 7*s.* 2*d.* to 7*s.* 3*d.* per lb. according to quantity.

BLEACHING POWDER is becoming very scarce, and higher prices are quoted on the Tyne, viz., 7*l.* 10*s.* to 7*l.* 12*s.*; London, 8*l.* 5*s.* to 8*l.* 10*s.*

BORAX is firm at 30*l.* to 31*l.* per ton, from the English refiners, but second-hand lots offer lower than this.

BROMIDES unchanged at the last quotations.

CAMPHOR.—In *Crude* Japan no business has been reported since last week, but holders are firm and ask 82*s.* 6*d.* to 85*s.* per cwt. on the spot.

CASCARA SAGRADA.—There appears to be only a very small lot available here at present, and for this 70*s.* per cwt. is asked.

CHAMOMILES.—Since last week the position of the article has become somewhat weaker, but it is impossible at this moment to give any definite quotations.

CINCHONA.—Tuesday's auctions were again of moderate dimensions, including of

	Packages		Packages
Ceylon bark..	1,663	of which	1,608 were sold.
East India ..	43	"	392 "
Java ..	160	"	160 "
South American ..	953	"	710 "
Total ..	3,179		2,870

It will thus be seen that, while the quantity catalogued was nearly equal to that offered at the previous sale, the proportion actually disposed of at the auctions was very much larger. Even of the American barks only a quantity of cultivated Calisaya, in broken quills, and a parcel of 78 bales very old *Paraso* (1882 and 1883 import) remained unsold, an offer of ½*d.* per lb. being solicited in vain for this bark. As regards quality the assortment offered can only be pronounced moderate. The best lots shown were a few lots of Java root bark, and there were also some parcels of good strong yellow root bark from Ceylon, but no lot realised more than 1*s.* 4*d.* per lb. One catalogue contained 564 packages bark (mostly South American), offered "for account of whom it may concern," the concerned parties in this case being said to be the creditors of a firm of quinine dealers which recently came to grief. From the beginning an animated competition prevailed among buyers, and it was clear at the outset that the general expectation that the sale would "go off well" would not be disappointed. To all appearance, the best

prices were realised at the beginning and towards the end of the auctions, though the bidding never flagged. It is generally admitted that a decided advance on the previous auctions rates was obtained, the estimates of the rise varying from 5 to 15 per cent., but we are inclined to place it at about 10 per cent., certainly not higher. The unit may thus be put at 2*d.* to 2½*d.* per lb. By far the largest quantity was bought by the representatives of the Brunswick Quinine Works, Jobst & Zimmer's agents, the representatives of the American manufacturers, and the Auerbach agents being also heavy buyers. The agents for the Mannheim factory appeared to have some difficulty in securing lots; they certainly bought very little. Messrs. Howards & Sons did not buy much, while Messrs. Whiffen did not compete at all. The following prices were realised:—**SOUTH AMERICAN BARK.**—*Calisaya* from the Bolivian plantations, fine, *s.* 2*d.* to 11½*d.*; good stout silvery, but rather broken, quill, 0*d.*; thin to fair ditto, 6*d.* to 9*d.* per lb. *Cyprea*, rather bold, of old (1882) import, 4*d.* to 5½*d.* for sound, 3*d.* to 3½*d.* for damaged, and ½*d.* to ½*d.* for common lots, the former apparently very high rates; *Soft Columbian*, of old import, ½*d.* to ¾*d.* per lb.; old *Cartagena*, ¾*d.* per lb. **CEYLON BARK.**—*Officialis*—Dust, 1½*d.*; branch, 3*d.*; young chips, mixed with dust, 3½*d.* to 4½*d.*; fair to good quality tem chips, 5*d.* to 7*d.*; spoke shavings, 5*d.* to 6½*d.*; root, 8*d.* to 8½*d.*; renewed bark, ordinary to medium, 6*d.* to 7*d.*; fair to good, 8*d.* to 9½*d.*; fine, 11*d.* to 1*s.* 1*d.* *Succirubra*—Dust, 2½*d.*; branch, 3½*d.*; dull chips, 3*d.* to 3½*d.*; fair bright silky stem chips, 4*d.* to 4½*d.*; fine ditto, 5½*d.* to 6*d.*; spoke shavings, 4½*d.* to 6*d.*; root, 2½*d.* to 5*d.*; renewed, dull to fine, 4*d.* to 9½*d.* *Hybrid*—Branch, 2*d.*; chips, 3½*d.* to 7*d.*; spoke shavings, 7*d.*; broken quill, 4*d.*; renewed, 5*d.* to 8*d.* **EAST INDIAN BARK.**—Mostly Madras of good quality. *Officialis*—Chips, small, 3½*d.* to 4*d.*; fine bright, 8*d.* to 0*d.*; root, 4½*d.*; quill, fine, rich, and mossy, 1*s.* 3*d.* to *s.* 4*d.*; dull and broken, 4½*d.* to 6½*d.*; renewed, 4½*d.* to 9½*d.* *Succirubra*—Root, 4½*d.*; renewed, 7*d.* to 10*d.* **JAVA BARK.**—*Zedgeriana*—Fine small chips, 1*s.* 2*d.* to 1*s.* 3*d.*; good ditto, 8½*d.* to 9*d.*; quilly chips, 5*d.*; dust, 8½*d.*; root, 9*d.* to 1*s.* 1*d.* *Succirubra*—Good silvery druggists' quill, 9*d.*; chips, 3*d.* to 5*d.* per lb. At the end of last week it was reported that the Mannheim quinine works had privately bought 600 bales Ceylon cinchona, averaging 1½ per cent. quinine sulphate, at the rate of 2½*d.* per unit per lb. The report was evidently spread for a purpose in connection with the impending auctions, as it is certainly not usual on the part of the quinine manufacturers to make such announcements out of a mere spirit of communicativeness. The *Britannia* has arrived from Valparaiso with 610 packages bark, but whether this is all Bolivian calisaya is not quite certain. Advices from Bolivia, however, would seem to indicate the probability of very heavy shipments from that quarter.

CHIRETTA.—We understand that holders are now asking about 50 per cent. more than was paid at the recent drug sales.

COCHINEAL.—The market remains quiet, with occasional sales at steady prices, viz., 1*s.* 1*d.* to 1*s.* 4*d.* per lb. for silver, and from 11*d.* to 1*s.* 3*d.* per lb. for black *Teneriffe*.

COPPER (SULPHATE) advancing, in sympathy with the rise in the market.

CREAM OF TARTAR slow of sale and tending lower, first white at 113*s.* to 114*s.* per cwt.

CUREBS.—The remainder of the first-hand stock in Amsterdam (172 bales) was to be offered for sale by tender on September 11. Privately, business is reported in Amsterdam at the equivalent of 24*l.* 7*s.* 6*d.* to 27*l.* 7*s.* 6*d.*, according to quality. Our own market is unchanged.

FENUGREEK SEED has advanced in price, sales of 1,200 wt. *Mogadore* being reported at 8*s.* 6*d.*, rising to 9*s.* per wt.

GALLS.—116 cases *China* galls were offered on Tuesday, of which 26 were sold at 62*s.* per cwt. for good rather old but damaged mixed. Good blue *Turkey* galls are held at 65*s.* per cwt., but we have not heard of anything being sold beyond 62*s.* 6*d.* per cwt. At Smyrna, 7 tons fine new rosy blue *Yerli* galls have been sold at the rate of 54*s.* per wt. There is altogether about 20 tons stock. The new

green, white, and blue Aleppo galls are commencing to arrive.

GAMBIER.—*Block*, after further advancing until the beginning of the week, when a considerable business was reported for arrival, closed quieter at 24*s.* for October-November shipment. *Cube gambier*, of which 248 bags were offered for sale on Tuesday, was all bought in.

GAMBOGE.—It is reported that since the last auctions there has been a very active private demand.

GLYCERINE, steady, but unaltered, at 66½ to 67½ per ton for *s. g.* 1260 double distilled.

GUM ANIMI very dull, with scarcely any sales. A few lots pea and bean sized *Zanzibar* realised 8*l.* 2*s.* 6*d.* per cwt.

GUM ARABIC.—For to-day's public sales 2,307 packages were catalogued, including 1,875 packages East Indian, 237 Aden, 121 Alexandrian, 42 Australian, 29 Cape, and 3 Mogadore. The demand throughout the sales was rather slow, except for Ghatti gum, which realised an advance. Of Amrad gums very little was sold. The prices paid were as follows:—*Amrad*—Fine soft pale, 115*s.*; fair to good slightly dark mixed amber drop, 72*s.* to 90*s.*; low dark to ordinary red, 35*s.* to 48*s.*; good siftings, 42*s.* to 49*s.*; dust, 23*s.* to 33*s.* per cwt. *Ghatti*—Very fine pale clean, 100*s.* to 122*s.* 6*d.*; very good, 61*s.* to 77*s.*; fair to good, 41*s.* to 55*s.*; siftings, 18*s.* to 20*s.*; pickings, 12*s.* to 20*s.* per cwt. *Cape*—Fine soft pale, 7*l.* 10*s.*; fair brown, 50*s.* to 52*s.* 6*d.* *Australian*—Fair red, 44*s.* 6*d.* per cwt.

GUM KOWRIE.—A rather heavy supply of 1,156 packages was offered to-day, and met with a very good demand indeed, about 800 packages selling at some advance, with spirited competition. The following prices were realised:—Common soft-coated rough pickings, 29*s.* 6*d.* to 32*s.* 6*d.*; common to ordinary rough, part hard, 34*s.* to 37*s.*; fair sorts, hard, partly to half-scraped, 45*s.* to 48*s.*; good three-quarter scraped, 58*s.* to 61*s.*; dark, well scraped, 61*s.* to 69*s.*; fair selected amber, 77*s.*; fine, 5*l.* 17*s.* 6*d.*; fine pale, 8*l.* 5*s.* to 8*l.* 12*s.* 6*d.*; transparent, 11*l.* 7*s.* 6*d.* to 13*l.* 10*s.*; superior, 15*l.*; ordinary to good pale soft, 45*s.* to 68*s.*; low dark chips, 21*s.* to 27*s.*; ordinary to fair, 34*s.* to 45*s.* 6*d.*; fine, 56*s.* to 62*s.*; low dark dust, 12*s.* to 16*s.*; ordinary, 20*s.* to 21*s.*; fine, 33*s.* 6*d.* to 37*s.* 6*d.*

GUM OLIBANUM.—At to-day's auctions 582 packages were offered, but the whole was bought in, holders' views being considered too high.

HONEY.—Full prices are being paid at Liverpool for *Californian* and *Chilian* honey. 111 barrels *Chilian* arrived from Valparaiso this week. In England and Scotland the honey harvest is this year a failure. In a good season a large hive will carry from 5 lbs. to 7 lbs. of honey a day, but nothing like that this year has been heard of, and the quality of honey is generally spoken of as being decidedly watery.

INSECT FLOWERS.—Nominally prices remain the same, but the stock is accumulating in Trieste, and if buyers hold off there is every prospect that owners will accept lower values.

IPECACUANHA.—The 51 packages which, as announced in our report last week, were expected to arrive, have since come to hand per *Bittern viâ* Antwerp.

MERCURIALS.—The following are the latest quotations for some of the principal preparations:—*Calomel*, 3*s.* 5*d.*; *Corrosive sublimate*, 2*s.* 9*d.*; *Mercurial ointment* and ditto pill, 2*s.* 1*d.*; *Red precipitate*, 3*s.* 8*d.*; *White ditto*, 3*s.* 7*d.* per lb.

MUSK.—Part of the fine *Tonquin* musk, first pile, for which 100*s.* per oz. was paid at the auctions, has since been sold at the same price. The only arrival recently has been one case from Calcutta, probably grain musk.

OILS (ESSENTIAL).—In *Italian* and *French* oils no change whatever can be reported, while *East Indian* essential oils also are very quiet. *Star anise*, nominally 6*s.* 4*d.* per lb. *Citronella* at, say, 1½*d.* to ¾*d.* per oz. for native brands. *Cassia*, at 2*s.* 10*d.* per lb., but offering as low as 2*s.* 7*d.* per lb. for forward delivery. *Lemongrass* oil is worth 1½*d.* per oz. Essential oil of *Almonds* is likely to advance. *Clove* oil also has followed the upward tendency of the spice, and is now quoted firm at 4*s.* 9*d.* per lb. for English drawn

oil. As regards the Mitcham oil crop, in spite of the almost unanimous assertion of the growers that prices for all varieties would be higher than last season, there is good reason to believe that these alarmist reports have been exaggerations. Some of the *Peppermint* oil growers, for instance, talked of being unable to produce remuneratively this year at less than 32s. 6d. to 35s. per lb., whilst in point of fact the new oil can now be bought in the district at much about last year's price, say, 27s. 6d. per lb., the large bulk of crop making up no doubt for its deficiency in oil. Again, in the case of *Chamomile* oil, for which a fancy price can often be obtained, because it is such a small article, and usually concentrated in a few hands, this oil has actually fallen 10s. per lb. on last season's price, and can now be bought at 42s. 6d. to 45s., against 55s. last year. *Lavender* oil is generally thought to be yielding better than either peppermint or chamomile, in comparison with last year's crop. The distillation this season will be unusually protracted owing to the heavy quantities to be treated, and there are still large quantities of lavender and peppermint to be distilled. *American peppermint* oil has been in great speculative demand this week, owing to alarmist reports from New York, and 13s. 6d. per lb. is said to have been refused, while none appears now obtainable under 14s. per lb., an advance of 1s. 3d. to 1s. 6d. since last week. *Sassafras* oil is also dearer; 2s. 6d. per lb. is now quoted. *Otto of rose*, unchanged at the recent quotation.

OILS (VARIOUS).—*Castor* oil is firm with a tendency towards further advance. *Cocunut* oil is again considerably dearer, Ceylon good to fine 25l. to 26l. Cochin sold at 27l. 10s. for fine, but up to 23s. 10s. is now asked. *Mauritius* oil nominal. *Cotton-seed* oil has advanced to 19l. 10s. for crude, and 21l. 10s. to 21l. 15s. for refined on the spot; November-April, 19l. 15s.; Hull spot, 20l. 12s. 6d.; November-April, 19l. 2s. 6d. to 19l. 5s. *Lined* firm with an advancing tendency, spot, 19l. 10s. to 19l. 15s.; Hull, 19l. 12s. 6d. *Olive* oil is also tending higher in consequence partly of unfavourable crop advices. *Mogadore* oil, 34l. 10s.; Messina, 34l. 10s. to 35l.; Spanish nominal at 37l. *Palm* oil has had a sharp advance of 30s. per ton, closing at 22l. 10s. for fine Lagos, with a very strong demand in Liverpool. *Petroleum* closes quiet, but rather dearer since last week: American spot, 7¹¹/₁₆d. to 7¹³/₁₆d.; October-December, 7¹¹/₁₆d. to 7³/₁₆d.; January-February, 6³/₁₆d. to 6⁵/₁₆d.; Russian spot, 6¹³/₁₆d. to 6⁵/₁₆d.; October-December, 6¹¹/₁₆d. *Rape* oil, considerably dearer since last week. On the spot, 27l. 5s. has been paid for brown; October quotes 27l.; January-April, 27l. to 27l. 5s.; refined, 23l. 15s. to 23l. *Turpentine*.—American spirit has risen 1s. since last week, but closes rather quieter, spot, 30s. to 30s. 3d.; October-December, 30s. 9d.; January-April, 31s. 9d. per cwt.

OPIMUM.—Reports from Smyrna, dated September 1, describe the market there as having taken a dull turn, with a disposition to sell on the part of holders, and it is added that a great many orders which had been given to Smyrna houses for execution at the best possible price have been cancelled. The arrivals of new opium up till the end of August are given as follows:—

	1883	1887	1833
	C.	C.	C.
Smyrna	2,069	2-2	1,931
Constantinople ..	1,232	283	700
Salonica	403	376	370
Total	3,691	943	3,051

On the other hand, it is said that there are reports to the effect that high prices have been paid in the interior of the country, and that this will have the effect of making holders firmer at the trade centres. The following is from Salonica, dated August 23:—The local speculators, following the lead of the London market, have become quieter, and several of them have even retired from the market, which is now quiet, but rather firm. Had it not been for a Constantinople speculator, who continues occasionally to buy small lots at high rates, the market would have further declined. The bulk of the stock is in the hands of holders who can afford to wait. It is also said that the dark-coloured opium, which has been said at Smyrna and at London to fairly represent the average of the new crop, is not in reality representative of more than ten to fifteen per cent. of the total, and has been gathered

during the rains prevailing for a short time during the gathering.

POTASH SALTS.—*Bichromate* unaltered at 4¹/₂d. per lb. *Chlorate* dearer, with rather heavy transactions at 5d. The quotation now is 5¹/₂d. to 5¹/₄d. per lb. *Prussiate* steady at 6³/₄d. per lb. for best yellow British.

QUICKSILVER has made a further advance. The principal importers to-day quote 9l., while second-hand holders have sold up to 8l. 15s.

QUININE.—The market has been very strong and sensitive since our last report, and there is little doubt that considerable sales have been made at full prices, both by manufacturers, notably the Brunswick and Mannheim works, and by second-hand holders. Since our last report the total of the transactions said to have been made amounts to considerably over 150,000 oz., but such figures should be received with caution, as they are entirely unsubstantiated, and one single transaction, especially in a sensitive market, is often multiplied several times. It cannot be denied that there is a good feeling for the article at present, and that it has repeatedly, after falling to between 1s. 3d. and 1s. 4d. per oz., rebounded, as it were, to the extent of several pence; but there certainly appears no warrant whatever beyond mere speculation for any considerable rise. We hear it said that up to the present the largest buyers are a firm of brokers intimately connected with the shellac trade, who evidently work on a preconcerted plan of action. The sales reported since last week are nearly all in "Brunswick" and "B. & S." bulk, partly spot, but mostly for October-December delivery, at 1s. 5d., rising to 1s. 5¹/₂d. per oz., at which latter figure there are still plenty of sellers to-day, the German makers quoting 1s. 6d. per oz.

SAFFRON.—We hear from Valencia, under date of September 3, that the demand from abroad has continued very brisk, and the stock on the date of writing had been reduced to 400 kilos., while the price had advanced to 59s. per lb. for superior quality, this figure being actually paid. In all probability the new crop, arriving in October-November, will bring heavy prices, which will only give way upon the arrival, in November-December, of heavy supplies.

SENEGA remains very firm. There are buyers of good Western root at 2s. per lb., but 2s. 2d. per lb. is generally asked. From New York there are reports of extreme prices—45c. per lb. in the first hand.

SHELLAC.—Last week closed with a very firm tendency and between our last report and the public auctions a considerable business was done at the following rates:—Spot: *Fine orange*, ASSL, 62s.; *Second orange*, TN basis up to 50s.; *Garnet*, unworked AC up to 40s.; and *Button*, ordinary to fair thirds, 46s. to 49s. per cwt. for arrivals. *Second orange*, good SS in diamond September-November, 55s. c.i.f.; TN, November-January, 50s. c.i.f. *Button lac*, fine firsts, 63s. c.i.f. At the weekly auctions a rather large quantity was offered, the catalogues embracing 980 cases, viz.:—

Orange	633, of which 415 were sold
Garnet	112, " 37 "
Button	185, " 47 "
Total	930 493

The quantity offered did not prove quite equal to the strain of keeping up the advance, and the auctions went off rather flatly, second orange lac especially selling about 6d. to 1s. below the previous quotations. The following prices were paid:—*Fine orange* pale, unworked, I in diamond, 61s.; *second orange*, good but reddish, EG in diamond (worked), 51s.; fair but curly to good, 47s. 6d. to 48s.; fair to good unworked, 46s. 6d. to 48s. 6d.; ordinary blocky livery, 45s. 6d.; *garnet*, unworked blocky AC, 40s.; free AT, 39s.; *button*, fair seconds, 54s to 55s. per cwt. Since the auctions second orange lac has sold at 49s. on the spot. Mail advices from Calcutta, dated August 18, describe the market there as quiet, with only a small business in native brands, European marks being held at prices too high to lead to business. *Button lac* was arriving sparingly and found a ready market.

SODA SALTS.—*Ash* unaltered at 1¹/₂d. here, and ¹/₂d. net on the Tyne. *Bicarbonate* firm at 5l. 2s. 6d. to 5l. 5s. *Caustic* dearer, in consequence of the negotiations for a combination

between the manufacturers. White (60 per cent.) and cream 3*l.* 15*s.* to 7*l.* 5*s.* Crystals firm at 46*s.* 6*d.* here, and 40*s.* to 40*s.* 6*d.* on the Tyne. Nitrate dealer at 9*s.* 3*d.* to 9*s.* 9*d.* on the spot, and up to 10*s.* for forward delivery, January-March.

SOY.—China, which has long been neglected, and was quoted at 1*s.* 3*d.* per gallon nominally last week, has since advanced, sales being reported up to 1*s.* 4½*d.* per gallon.

SPICES.—The active speculation which has been manifested in several varieties of spices since a few weeks has apparently received a check, and at the auctions on Wednesday a rather heavy quantity met a decidedly dull market. Arrowroot is quiet, with small sales only, ordinary to medium St. Vincent at 1½*d.* to 2½*d.* Cassia lignea, which was reported to have been the object of some speculative purchases last week, remains dull of sale at 21*s.* 6*d.* per cwt. nominally. Chillies quiet but steady, at 35*s.* for rather brown Zanzibar. Cloves have continued to excite a good deal of speculative interest on account of the reports from Zanzibar speaking of a late and unsatisfactory crop; but at yesterday's auctions prices were rather easier than they had been the week before, and of 449 bales Zanzibar, 270 were disposed of at 7½*d.* to 7¾*d.* for dark to fairly good. A small lot of exceptional quality realised 9¾*d.* per lb. Fresh new Penangs sold at 1*s.* to 1*s.* 0¾*d.* per lb. Clove stems sold at 1½*d.* per lb. Ginger Cochon is showing some improvement for cut, but other varieties are dull and cheaper; bold cut, 56*s.* to 59*s.*; medium ditto, 40*s.* to 35*s.*; small, 25*s.*; medium and small bright half cut, 28*s.*; ordinary rough brown, 18*s.*; common wormy, 15*s.* to 17*s.* Jamaica ginger dull of sale and again somewhat lower, middling to good selling at 64*s.* to 77*s.* Fifty boxes ground Japan ginger sold without reserve at 2*s.* to 2*s.* 6*d.* Mace remains pretty steady, good bold pale Penang, 2*s.* 10*d.*; common thin curly Bombay, 2*s.* 5*d.*; damaged wild ditto, 8½*d.* to 8¾*d.* per lb. Nutmegs firm except for medium qualities, which sold cheaper. Bombay (83 to 102), 2*s.* 7½*d.* to 2*s.* 3*d.*; Java (58 to 79), 3*s.* 8*d.* to 2*s.* 7*d.*; West Indian (73 to 128), 2*s.* 10*d.* to 2*s.*; Penang (57 to 115), 4*s.* 4*d.* to 2*s.* 2½*d.* per lb. Black pepper steady, and held above current market rates. Singapore, 7½*d.* White pepper unchanged but quiet. Siam, 1*s.* 0¾*d.* per lb. Pimento is also firmly held, but there seems very little enthusiasm for the article. At yesterday's auctions only a small quantity was sold, common grey, 2¾*d.* to 2½*d.* per lb.

SULPHONAL.—The price of Bayer's sulphonol has been reduced to 5*s.* 9*d.* per oz. for wholesale quantities.

TALLOW.—An important advance in Australian tallow occurred at last Friday's public auctions, when a very heavy quantity was disposed of at a rise of 5 to 10 per cent. as compared with the previous values. The market now stands as follows:—P.Y.C., 36*s.*; Australian, beef, 26*s.* 6*d.* to 27*s.* 6*d.*; mutton, 27*s.* to 28*s.* per cwt.

TAMARINDS.—A rather heavy quantity of the recent arrival was offered for sale this week, and met somewhat less demand; only about 50 packages selling at 15*s.* to 16*s.* 6*d.* for Montserrat in barrels, and 17*s.* for St. Kitt's in kegs.

TEA.—China: The market for Congous remains dull, although at this time of the year a fair trade is generally passing. Not much new Kaisows under 8*d.* is offering, though some good useful Saryunes may be had about 7*d.*, but plenty of good Chingwo is to be had about 11½*d.* to 1*s.* 1*d.* Monings, mostly second crop, from 7*d.* to 9*d.*, are in larger supply, but keep firm, while first crop teas from 8*d.* to 10*d.* are slightly dearer. There are still in importers' hands a large quantity of good to fine Onfa, for which the owners are wanting 11*d.* to 1*s.*, but these are taken up sparingly. Newmakes are offering freely and show good value, but on Tuesday a large quantity sold in sale at 5*d.* per lb., the lowest Newmake quotation seen for a long time. Assams show a heavy fall—not unexpected, though very rapid—in lower grades of Pekoe, and some cheap teas have sold at 7¾*d.* to 8½*d.* Pekoe Souchongs are easier, and useful teas may be bought at 7½*d.*, but broken teas remain firm, though everyone is looking for a sharp drop before many weeks are past. Some of the dealers have been rather hard hit by the fall in 8*d.* and 9*d.* leaf teas, and are discounting their old stock freely. Ceylons unchanged.

TURMERIC.—The sharp advance which has been privately paid caused a heavy quantity to be put up for auction on Tuesday, the bulk consisting of wormy Madras, which is very plentiful. Altogether about 2,100 bags were offered, of which about one-third sold at a decline. Madras finger, good medium hard, 8*s.* to 8*s.* 3*d.*; dull small ditto, 7*s.* 6*d.* to 7*s.* 9*d.*; very wormy, 7*s.* 3*d.*; wormy whole bulbs, 6*s.* 6*d.*; finger and bulb mixed, 6*s.* 3*d.*; split bulb, 5*s.* 6*d.* to 6*s.* per cwt. Since the auctions a much better spirit has again been manifested, and the decline has been fully recovered, private sales being reported of fair to good Madras finger at 8*s.* to 8*s.* 6*d.*, with a fine parcel at 9*s.* 9*d.* per cwt., and Bengal at 1*s.* per cwt.

CHEMICALS IN THE NORTH OF ENGLAND.

THE improvement referred to in our last report on the chemical market has not only been maintained, but a further decided advance has been realised. The position of chemicals generally is better, and more healthy than it has been at any period this year, and if the intentions of several makers be fully carried out, and a general reduction of output be made before the end of the year, we shall see a decided rise in values. The market is in a most sensitive condition, and any indication of a better state of matters in the trade causes an immediate improvement in quotations.

ACIDS.—Tartaric is still very quiet, and quotations range from 1*s.* 5¾*d.* to 1*s.* 5½*d.* per lb., but the demand at present is very limited. The same remarks apply to Citric, which has only been in limited request at 1*s.* 6½*d.* per lb. Oxalic, on the other hand, has advanced to 4*d.*, a syndicate having been formed here and on the Continent to arrange and control prices. Boracic is very firm, and is likely to be dearer on spot, our available stocks being much reduced. Quotations range for prompt from 26*s.* to 26*s.* 6*d.* per cwt., with a very steady market.

ALUM.—There is no change to mention in this article beyond a more active demand, chiefly for export, and buyers are also now anxious to cover their requirements. This fresh inquiry has been partly caused by an apprehended rise in freights. Prices are very firm for Alum at our recent quotations.

BLEACHING POWDER has been very scarce during the last week, and the advance we pointed out has taken place. Shipping orders are active, and values close firmly at 7*l.* 7*s.* 6*d.* to 7*l.* 10*s.* for soft wood on rails, and at 8*l.* for hard, f.o.b. The quotation of 7*l.* on rails we mentioned last week of course refers to next year.

BORAX.—Makers are very steady at 30*s.*, and the demand for second-hand lots at lower prices continues, some quantity having been taken this week on private terms. The position will not be sound or firm until these parcels are cleared off the market. There is no change in Californian, the value of which ranges from 29*l.* to 30*l.* per ton; but no arrivals have taken place, and our stocks are gradually running down.

POTASH SALTS.—The only chemical to mention in this section is Chlorate, which has met with a much better inquiry, and some considerable quantity has been sold at 5*d.* Some makers, however, have taken their stocks off the market, and prices are gradually hardening.

SODA CRYSTALS are in better demand at 2*l.* 10*s.*, and Bicarbonate has also been in more request for export at 4*l.* 10*s.* to 4*l.* 12*s.* 6*d.*

SODA SALTS.—Caustic has decidedly improved, the makers having had a meeting, and established a certain base of agreement. A large business has taken place at very full prices, and the market closes at 6*l.* per ton for 60 per cent. white, and 7*l.* for 70 per cent. white, with but little offering under these figures.

METAL BASES.—Sulphate of Copper, affected by copper, has again improved, and makers are very firm at 21*l.* to 22*l.* per ton. The Sugars of Lead, in sympathy with lead, are dearer, and the closing quotations are, foreign white at 27*l.* 10*s.*, and brown at 21*l.* to 21*l.* 10*s.* per ton.



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish.

Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers, please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulae consult the last volume, if you have it.

Letters, queries, &c., not noticed in this issue will, if possible, be attended to next week.

Competition, and How to Meet It.

SIR,—Your article in THE CHEMIST AND DRUGGIST of September 1, under the heading of "The 'Cutting' North Wind," deserves some notice. I like the article better than the heading. The article is fertile in suggestions which should give rise to discussion. I shall not attempt to say anything on all the suggestive ideas which I detect. There are one or two points, however, on which, with your permission, I shall say a word or two. You say that it will never do for chemists to wait for evidences of the prosperity of a store before they adopt reduced prices. This observation I cordially endorse. If there be any town in which cutting has not yet become the fashion, I should say to those interested that immediately signs of approaching cutting appear, reduced prices should be promptly adopted. The fashion is now so general that it is only a question at most of a month or two before it embraces even out-of-the-way villages. It is more graceful to adopt the system voluntarily than under compulsion.

It is curious to notice how the approach of the enemy is regarded in some cases, and how his actual arrival is received. Shortly after rock-bottom prices had been adopted in my own town, a chemist from a considerable town in the country called on me. I showed him a small list of prices which I had just had printed for circulation to make known the radical change. He read it over, and said it was unprofessional to adopt such prices; that sooner than do this himself he would kick all the blanked patents on to the street. I said nothing in reply, but I thought I should keep an eye on his future behaviour on the question. About three months afterwards he called again. This time he did not bounce. He asked how the new prices were getting on. I said they did very fairly considering all things. He seemed interested, said he would take a copy of my list. There was a store starting in his town that advertised intentions of selling patents at wholesale prices, and as he rather thought he would have to reduce prices, the list might be useful. I spared his feelings, and did not remind him of his remarks on his previous visit.

There is one good thing which the system of reduced prices does, and that is, it tends towards a more general system of cash payment. By getting cash one can pay cash. If one gets less profit one gets better purchasing terms. People undoubtedly buy more articles at the new than the old prices. Suppose one had 3d. off a shilling article at full price, at 9d., buying for cash on best terms, one has 1½d. only. But three are sold where only one was formerly sold. There is ¾d. to the good by the new system.

The only way to live now is to make the best of things as they are. There is no use hoping for improvement as a result of legislation of a protective kind. The Society, which took our fees and led us to understand we were admitted to a protected trade or profession, says it is only an educative body, and cannot concern itself with matters of trade. Is taking a fee educative? Has it any right to take fees from a man that it cannot protect? Is there any parallel example in any other trade or profession in this country?

Yours truly,

Scotland, September 10.

PHILOSOPH. (127/70.)

Mr. Benger on Business

SIR,—While fully endorsing the favourable opinion you express of Mr. Benger's able and interesting address, I agree with you that there are several points in it besides those touched upon in your clever leader which are open to controversy. I would briefly notice one of them, and that is, the complacency with which loss of business is regarded by the President of the Conference.

Mr. Benger admits that much of the trade formerly associated with pharmacy has been alienated, and asks what is the remedy? "Either we must get more pharmacy, we must regain our lost trade, or we must replace it with some other remunerative occupation." Now we must all admire the "healthy philosophy"—as you well put it—of Mr. Benger's advice on the development of pharmacy proper, and the practical application of our scientific knowledge (if we have got any) to the facts of every-day life. But we look in vain for any suggestion as to how we are to "regain our lost trade." It is gone; let it go. That would appear to be the attitude of Mr. Benger, as it has been of so many others, as they are now finding out to their cost.

In his reference to the stores Mr. Benger appears to me to evince a total lack of the true commercial spirit. He seems to forget we are traders and must do business on commercial principles if we are to keep the trade in our own hands. The public are not quite such fools nor the stores such swindlers as Mr. Benger would make out. It is bad arithmetic and worse logic to say that the public only save 10 per cent. by going to the stores, and that quality is sacrificed to secure this reduction. Do the public save no more than 10 per cent. when they get a 1s. 6d. mixture for 9d., a 2s. 6d. cod-liver oil for 1s. 6d., a box of Beecham's pills for 9d., or a bottle of Benger's liquor pepticus for 2s. 4½d.? And need the quality suffer in consequence? The mixture at 9d. and the oil at 1s. 6d. would still bear 100 per cent. profit.

No; for common sense in matters of business we must leave our pharmaceutical leaders and educationalists, and hie us to your ever progressive and enlightened journal.

As a protest against the suicidal policy of *laissez faire*, I might quote some timely words uttered in your issue of September 1—words that it would be well for the conservative pharmacists to read, mark, learn, and inwardly digest. "It will never do for chemists to wait for evidences of prosperity of a 'store' before they adopt reduced prices; the advent of these establishments is a sign that the cutting-down process must begin, and chemists should use all their efforts to retain their customers and to make them better ones. Trade comes slowly, but may go quickly."

Yours truly,

C. S. ASHTON.

Buxton.

The British Plagiaristical Conference.

SIR,—It may interest your readers to know that, encouraged by the financial success of our previous labours, we have now invented formulæ for the following well-known preparations, viz.:—

Syrupus Matris Seigelis	Tabellæ pro Canis Sprattis
Oleum Sancti Jacobi	Liquor Niger Dies et Martinis
Sal Fructus Enonis	Elixir Vite Ignotus
Mistura Sanguinea Clarkonis	Pilula Beechamensis
Cibus Boni Bengeris	

The formulæ will be sold at 1s. each, or three for 2s. 6d., and we confidently anticipate a large demand.

Yours faithfully,

A MEMBER OF THE OFFICIOUS FORMULARY COMMITTEE.

In the Far West.

SIR,—In reading your notice of the Weights and Measures Bill of July 28, and comparing the very moderate charges for verification and stamping in England and this Territory, I could not help thinking that the poor chemist at home has something to be thankful for.

Last Monday a very bland-looking old gentleman walked into the store, and mentioned the fact that he had come to test all scales, weights, and measures. He tested three pairs of scales, with weights, and five tin oil measures, and charged 50c. each for his trouble, which made \$4.

Where would the day's sales of a country chemist be after deducting 16s. 8d. for further protecting the always kind and indulgent public?

DAKOTA DRUGGIST. (15,118.)

Whcatland, D.T., U.S.A., August 8.

Pure Lard.

SIR,—We see in your issue of September 8 that during the discussion on the paper read by Mr. Michael Conroy on 'Lard: Its Adulteration, &c.," Mr. Ward stated that "it was one of the most difficult things to do to procure a sample of pure lard." We have for over fifty years supplied the trade with this very necessary article unadulterated, and we do not like now to see the statement that it cannot be obtained pure. We may add that we are in a position to guarantee our lard, as we sell none but our own manufacture from the fresh fat only.

Apologising for troubling you,

We are, sir, yours obediently,

[JAMES EWEN & SONS.

Prescribing Chemists and Dispensing Orders.

SIR,—Kindly allow me to state my idea on the subject of Chemist *v.* Doctor. A chemist is lawfully allowed to prescribe as long as he does not make a medical examination. I consider, therefore, that chemists should push this branch of their "profession" (which, by the way, is the only part that is professional) a great deal more than they do.

Instead of the old manner of advertising—"Mr. S. has had great experience in dispensing"—let him substitute "prescribing" for the last-named word, at the same time intimating to the public the great saving thereby effected in the amount of doctors' bills. "Everything is fair in love and war," and a man ought to be sufficiently in love with himself and his pocket to consider this quite a legitimate war against doctors' dispensing.

If every chemist would get out of his "fossil" state and set himself diligently to thus defeat the dispensing doctor on his own ground, I believe the subject, whether the chemist shall prosper or only eke out a "miserable existence," would soon be settled by Parliament, and I think in favour of the former. Therefore my advice is, "Sound it abroad that the chemist is fully competent to give medical advice gratis." Revolution—or, rather, standing up for our rights—is the only plan to ensure victory. Let there be a grand strike for protection for dispensers.

Yours truly,

AN ENGLISHMAN. (1/120.)

[This may be "English, you know," but our correspondent is vague about the law, and somewhat reckless, we fear, about patients. It is settled law that a chemist may not "act as an apothecary;" and the legal definition of acting as an apothecary is that of Mr. Justice Cresswell, who said, "An apothecary is a person who professes to judge of internal disease by its symptoms, and applies himself to cure that disease by medicine." The Apothecaries' Company and everybody else recognise that reasonable latitude must be allowed to chemists, but a wild crusade, such as is suggested by "An Englishman," would not be likely to secure much sympathy, either from the public or from the majority of serious pharmacists.]

"The Move Forward."

SIR,—The letter under the above heading by "Heder" is, to say the least, misleading. He commences by saying that we must induce the trade generally to join the Pharmaceutical Society, which means practically paying money for nothing; as, if "Heder" took the trouble to find out the opinion of the trade generally, he would find it, as regards the Pharmaceutical and its doings, simply to mean "disgusted."

Doubtless the gentleman is a pharmaceutical chemist, and gives his advice and opinion accordingly; I, as an ex-A. P. S., would strongly advise all chemists to stand aloof from a Society that looks so eagerly after the loaves and fishes, and troubles not about those who provide them. As the majority of the trade know full well, the Pharmaceutical is nothing more than an examining and fee-taking body,

incorporated, it is true, with curriculum on the brain, and with a benevolent fund for a few of those who are brought to a state of poverty through their inactivity and want of knowledge of the trade of the country at large.

Yours faithfully,

AN EX-A. P. S.

SIR,—I had a splendid example of the pharmaceutical move forward the other day. A man came in and asked the price of oxalic acid. I thought to make a special quotation, and while I was looking it up he stated that he usually obtained it at Blank's, 23 lbs. at a time, at 7d. per lb. I told him I was sure he could not do better than patronise Mr. Blank. A short time after he called in and showed me a single pound obtained from a neighbour at 6d. I should have been sceptical, but there it was in black and white—a real bill for it included.

Well, considering the list price is 5d. per lb., it was not so bad after all, to say nothing of professional skill and the subscription to the Pharmaceutical Society as well. We should soon all liquidate as a profession if it went much further in this direction. I suppose it is what we must all come to.

Yours truly,

London, September 3.

T. B. (123/64.)

Haarlem Oils.

SIR,—In the issue of THE CHEMIST AND DRUGGIST, August 25, "Heder" asks for information regarding "Haarlem oils." I should be glad if he could make use of the following formula:—

Olei lini, partes iv., in cacabum ferreum satis amplum immixtas, admixta. Sulphuris sublimati parte j. Inter perpetuam agitationem ad 165° C. calefiant, donec gutta exempta et in laminam vitream injecta post refrigerationem limpida maneat et in gelatinum obrigescat. Cacabo ab igne remoto, inter agitationem seassim addantur aetherolei terebinthinae crad. ppt. xv. Solutio inde parata coletur et in lagena probe obturata servetur. Sit limpida et colore e rubro fusco.

This article, which is accurately prepared as the genuine, has a great sale in Denmark and Germany in small original bottles under the name of "medicamentum gratia probatum," or Haarlem-Olie.

I am, sir, yours very truly,

Apotheker i Otterup, Danmark,

A. v. C.-KRAUSE.

August 29.

SIR,—Will you please tell "Heder" that Haarlem oil is a mixture of 1 part ol. lini. sulphurat. in 3 parts ol. terebinth. rectificat. According to this formula it is largely made in Hamburg for export to Holland, England, and the colonies. It is put up in the well-known small bottles. I myself have made up thousands of kilos. according to this formula.

Yours faithfully,

Brünn, Austria, August 28.

DR. H. MIERZINSKI.

["Heder" will also find an interesting note on this subject from our Amsterdam correspondent on page 634 of our issue of November 26, 1887.]

Pharmacy Reform.

SIR,—Your editorial remarks on my last letter did not show that you believed in a Chemists' Protection Bill. I am fully aware that what I advocate appears at first sight impossible, but not more so than many other things before they were carried out by determined agitation. Being in daily, in fact hourly, communication with registered chemists, I am convinced that all see the necessity of legislation for the protection of their interests. One important individual connected with Bloomsbury Square agrees with me that a simultaneous attachment to the Society would enable them to go to Parliament with a Bill on purely trade lines with a far greater weight than at present. I see several of your correspondents are also of my opinion.

The sale of medicines of a simple nature is in nearly every town very much in the hands of the small shopkeeper, who knows nothing whatever of the properties, and very little about the doses, of what he is selling. Surely, every one must be of opinion that the public would get better value by

going to the registered chemist, who can explain the character and nature of all medicines. I am of opinion that very much injury is done by the indiscriminate sale of common or popular medicines. Again, many patent medicines not only contain scheduled poisons, but require explanations as to their use and application.

Look, again, at the universal sale of carbolic acid by any one who likes to sell it, generally drunk in mistake out of a ginger-beer or wine bottle, on which no label or word "poison" appears, showing that it was not obtained at a chemist's. I think we have had enough of "Poison Bills." What the chemist wants is protection, and what the public would soon understand and appreciate is the fact that they must go to the chemist for drugs and medicines of all kinds, and let grocers and tailors and unlicensed dealers sell articles that are not a matter of life and death.

Yours truly,
VIATOR.

The Advancement of Pharmacy.

SIR,—Your correspondent "Spero" has evidently devoted more time to the study of Sir Dyce Duckworth's speeches and Trench's writings than to the monthly price-list, or surely he would know that the low prices of the "cutter" are not incompatible with good quality. No, sir; it is not the "huckstering cutter" who is sliding backwards, but rather those who blindly shut their eyes to the fact that old time prices are no longer obtainable—those who, for the sake of what they are pleased to term "the dignity of the profession," will allow the nearest grocer, trader, or fishmonger to undersell them, and so the "advancement of pharmacy" goes on. In my experience it has been the "cutting chemist" who has been the last to lose heart, and the complaints which are continually arising as to the black outlook for chemists in general do not arise from the businesslike cutter, but from those who may be aptly termed "Bloomsbury mashers."

Chesham. Yours truly,
W. PAYNE.

The Advancement of Cheap Pharmacy.

SIR,—In reference to "Spero's" remarks anent the wisdom of "cutting" in some situations there is this point, that customers from a "cutting" district make it very disagreeable for others who do not "cut" quality as well as price. Last week a lady brought me this formula:—

Pa. myrrhæ	..	..	..	..	3ss.
Crutæ precip.	..	..	..	..	3j.

for which I charged her 6d. She was very much surprised, and said she paid 4d. in London and 3d. in Yorkshire! I claimed but a fair price, yet was considered an impostor. But I took my revenge by telling the party that she must expect to pay a fair price for a good article, and that the man who charged her only half my price cheated himself or her. Why will chemists do their best to destroy business by pettifogging in prices? I feel sure that the public will ultimately prefer the man who uses myrrh. opt., puts in the quantity ordered, and charges a fair price for compounding.

Yours truly,
HEDER.

The Putney Prescribing Case.

SIR,—The Putney chemist's promise at the inquest reported in your last issue "to be more particular in future" was, I think, altogether gratuitous and uncalled for; indeed, such unnecessary submission to the flagellation of anybody and everybody who chooses to wield a whip is humiliating to the last degree, though it is "quite chemist, you know."

It is apparent enough from the medical testimony that the child died from over-feeding, and it is equally clear that the medicine given had "nothing to do with the case." Why, then, this abject *Peccari*?

As a matter of policy simply, I should certainly be inclined to discourage anything like systematic counter prescribing as being injudicious and likely to create ill-feeling between the medical profession and chemists; but I am unaware of

any law that prevents any one—even a druggist—from giving a customer or friend the benefit of his experience in trifling ailments when asked. I for one should never hesitate to give it, if so inclined.

Of course, if a chemist is so foolish as to interfere in matters concerning which he has no knowledge, and in his ignorance prescribes improper medicines, he can be prosecuted for malpractice, and an action to recover damages would hold good; but just so with any doctor and his patient, neither more nor less.

Don't, therefore, be frightened, ye disciples of the pestle and mortar, by a little official thunder—there's nothing in it; and until it can be shown that you have acted ignorantly, that your medicine or advice was improper, and that in consequence the recipient thereof has suffered harm, you are safe enough.

September 4. Yours truly,
A SINNER. (124/17.)

Shellac Coating for Ships' Bottoms.

SIR,—An evening paper announced a few days ago that the Japanese Admiralty has finally decided upon coating the bottoms of all their ships with a material closely akin to the lacquer to which we are so much accustomed as a speciality of Japanese furniture work, viz. a preparation of shellac. After adding that this new coating material, although its first cost is three times that of the one now in use, remains fully efficient for three years, and that the number of dockings required by shellac-coated vessels will be six times less, the article naïvely concludes with the remark that "the dealers in gum lac express the fear lest the demand likely to follow on this novel application of it may rapidly exhaust existing sources of supply; but the experience of their fear is probably dictated by the wish to obtain a higher value for their goods."

Now, sir, allow me to point out that, although new perhaps to the Japanese, this method of treating ships' bottoms has long been known to Europeans, and more especially to Englishmen. Several firms in this country have invented anti-fouling compositions for the prevention of accumulation of barnacles and other matter, and one of the main constituents of these compositions is shellac. It is well known that one house in particular finds a large and profitable sale for their anti-fouling composition, the basis of which is the so-called *Garnet* lac, and it is reported that recently they have been in the habit of using from 400 to 500 chests of garnet lac per month in this manufacture. Your readers may not be all aware that shellac is often used to varnish the insides of beer barrels to prevent the liquid soaking into the wood, and thus becoming a source of uncleanness. Perhaps if this fact were widely known, the practice of thus varnishing barrels would become more general. In my opinion it is a distinct improvement upon the old plan.

Yours truly,
A SHELLAC BROKER. (714/85.)
London, September 3.

Modern Pharmacy.

SIR,—Mr. Burroughs ably defends his firm, but misses one point which touches sorely the retailer. The articles prepared by this eminent firm are on the market, accessible to grocers and stores. For this there is no remedy; but if the firm could restrict the sale to chemists only, the trade would have as much pleasure in stocking the goods as we now feel annoyance when selling them at store prices.

Yours truly,
HEDER. (125/6.)

SIR,—I must confess that I think Mr. Burroughs has missed my point. I gave the firm as a type of elegance, and as being one of the pioneers of modern pharmacy; but I had no intention of including sulphonal, antipyrin, "tabloids," &c., among the articles I referred to. If Mr. Burroughs will read again that part, I think he will see the kind of articles I mean—things by no means impossible to be made in the shop. I should be sorry to hurt Mr. Burroughs's feelings by causing him to think that I referred to the "tabloids." But, again, I did not even say that these things were "evil." I

spoke of the evils *resulting* from the multiplicity of "mixtures," "solutions," &c., and this I by no means think differently of. Surely it is a grave evil to turn the chemist, as is rapidly being done, into a mere retailer—everything prepared for him by this firm or that, even his tinctures. I think I have explained the difference between what I meant and what Mr. Burroughs thought I meant; and that is sufficient to warrant me in asking you to insert this reply.

Yours truly,
H. R. (125/14.)

Tricycles for Chemists.

SIR,—I wonder if many of your readers have had much experience of the use of a bicycle for health, and a carrier triecyle for business purposes. It seems to me that where a chemist has a fair amount of customers who live at some distance away, he would find a carrier triecyle very useful to send his boy round with small parcels, and the chemist himself would be no worse for an occasional spin and breath of fresh air, and would come back to his business with fresh energy and vigour; and in all businesses there are certain parts of the day when very little is done. I shall be glad if any of your readers will give their experience. I myself ride to and fro to business and dinner a rear-driving Rudge safety bicycle, and attached to handle bar and luggage carrier I can carry no end of little parcels either for home use or to a customer on the way home; and I must say I would not like to be without it, either for its business uses or for the exhilarating pleasure I feel in riding. Any of the large Coventry firms would send price-lists, or perhaps insert an "ad." in your valuable journal.

Yours faithfully, SODA CARB.

"No Welsh Need Apply."

SIR,—One of your South Wales contemporaries has been airing the grievances of Welsh chemists' assistants in his columns, and in my opinion rightly so, too. A brother chemist seems to have been advertising for a smart energetic junior—"not Welsh." I want to ask why Welsh assistants are to be ostracised. I have been twenty years in business, and during that period have been the employer of many assistants. The most trustworthy, the steadiest, the best-informed have been Welsh, and when I require an assistant I always give preference to a "Taffy." If you require a faithful, trustworthy fellow who is prepared to serve you truly, try a Welshman! Of course, if a master has a business which is so impersonal that he can afford to take his days out in shooting or fishing excursions, by all means let him employ a fast-going, oily-tongued Englishman. But if, on the other hand, he requires a man who is plodding, honest, and persevering, let him make friends with the Mammon of the Celt. I abhor these would-be national distinctions, and were I a resident medicine-imbibor in the great metropolis, I would say, "Preserve me from the stuck-up specimens of Bloomsbury Square Solonism." I have a Welsh assistant with me at the present time—and, indeed, my last three seniors have been Welshmen—and when I next require a helping hand, I shall be only too pleased to engage the services of another importation from the land of the Cymry.

COSMOPOLITAN.

Information Wanted.

[Replies to the following requests are solicited by correspondents of THE CHEMIST AND DRUGGIST.]

123/34. Probable composition of "Silverton's Aural Remedy."

123/46. Publishers of a ship captains' medicine-chest guide in the Italian language.

125/49. Formula for pil. pareire co.

126/22. Formula for black aniline ink for the hectograph

10/127. Kampfe's star safety razor. Where can the soap for this be obtained?

LEGAL QUERIES.

68/123. *T. Brand*.—It is quite possible that a baker using a baking-powder containing alum might be prosecuted, and possibly might be fined, though, on the other hand, it would be easy to prove that there was no alum present in the bread, only alumina, which has no physiological effect. Prosecutions for the sale of baking-powder containing alum have been attempted and have failed.

13/23. *J. P.*—If your agreement with your employer does not in any way override the custom of the trade, you could probably recover from your employer a month's salary, as you would most likely be able to satisfy a county court judge by evidence that a month's notice is customary in the trade. But you would not succeed if you have already accepted the shorter notice.

55/126. *Indagator*.—In transferring an apprentice it is only necessary to have an agreement signed by all the parties concerned; that is, by the old master and the new master, the apprentice himself, and the apprentice's parent or guardian.

Mr. J. E. Kersey, of Plaistow, is good enough to send us a label, which he found in the stock of his predecessor, for quinine and iron tonic, and which he is informed at Somerset House would render the preparation liable to medicine-stamp duty. The label is worded as follows:—

QUININE AND IRON TONIC.—Enriches and purifies the blood, strengthens the system, and imparts tone and energy to the digestive organs. This original preparation, containing all the blood-enriching and strengthening properties of iron in its most useful form, and the excellent nerve and general tonic qualities of quinine, will be found invaluable in all cases of nervous and constitutional debility, neuralgic pains, weariness, loss of appetite, and general indisposition. It is also the very best strengthening and stimulating medicine in early cases of consumption. *Dose*.—One tablespoonful to be taken three times a day, after meals.

The ordinary label which is regarded by Somerset House as not liable will be found on page 163 of the last *CHEMISTS' AND DRUGGISTS' DIARY*.

60/127. *W. H.*—By the Pharmacy Act, 1869, it is provided that nothing in the first fifteen sections of the Pharmacy Act, 1868, shall affect any registered medical practitioner who shall have passed an examination in pharmacy. So that any such person is legally entitled to keep a chemist's shop, and to call himself a chemist and druggist if he please. He could not call himself a pharmacist, pharmacist, or pharmaceutical chemist, however, those titles being expressly reserved to persons who have passed the Major examination of the Pharmaceutical Society.

45/128. *J. F.*—Poisons supplied to a medical man are sales "by wholesale to retail dealers in the ordinary course of wholesale dealing"; therefore it would not be necessary to register sales of poisons in Part I. of the schedule, even though supplied to a servant of the doctor. But it would be desirable to have a written order for such, and if there is any doubt it would be better to enter the sale. If a servant buys a Part I. poison for his master, the latter being known to the vendor, the register ought to explain that. The servant, of course, must sign, and he must be introduced unless he is also known to the vendor.

72/125. *C. V.*—We do not know if there are any special local circumstances, but in ordinary cases you certainly have not the right to copy another firm's label or title simply because you have obtained the formula from which his article is made. You may use the formula, but you must yourself create a reputation for the medicine you sell.

59/128. *Mortar*.—The marks on your measures are those used in different localities. From memory we reply that we believe them to be the marks used in York, London (City), and Westminster respectively. But why not ask the firm from whom you got the measures?

DISPENSING NOTES.

The opinions of practical readers are invited on subjects discussed under this heading.

Gallic Acid Mixture.

125/4. *Santal*.—There is no difficulty at all with your mixture. As 2 drachms of gallic acid will not dissolve in 8 oz. of water at the ordinary temperature, powder the acid, mix with the water, and add the sulphuric acid. The rules to be observed in this and similar cases are given in "The Art of Dispensing," which you will be the better of reading.

Bismuth Subnitrate and Sodium Bicarbonate.

124/73. *Apprentice*.—The latter part of the preceding reply also applies to your case. Mixtures such as that of which you send us the prescription burst the bottle because the bismuth and sodium salts react, with the evolution of carbonic acid gas.

Ergotin Pills.

SIR,—Can any of your readers give me assistance in solving this (to me) puzzle:

Ergotin	gr. ij.
Ferri redact.	gr. ij.
Strychninae	gr. $\frac{3}{4}$

Ft. pil j. (mitte 60), silver, and place in bottle.

These pills I am continually preparing for a medical man, and I carefully evaporate the mass to a thick consistency, adding some pulv. glycyrrh. to make an absorbent foundation, roll out, varnish with mastic and chloroform, and silver; they will last for two or three weeks or so, and then begin to stick about the bottle. The difficulty, of course, is the ergotin. W. B. (123/62.)

[A sixth of a grain of powdered tragacanth and a sufficiency of powdered liquorice make an excellent pill, which is not so liable to soften as the mass without tragacanth.]

Liniment Query (120/21).

SIR,—In reply to "Lin. Cadmii Comp." in your last issue, I beg to send direction. Melt the gelatine in the mixed water and glycerine over a spirit lamp. When melted add the oxide of zinc and the ichthyol, fill in the bottle and sign, "Shake before use." Before use it is melted by placing the bottle in hot water.

I am, sir, yours very respectfully,
Otterup, Denmark, September 5. A. KRAUSE.

117/32. *A Donegal Subscriber*.—Your prescription is for sulphate of zinc, 25 centigrammes (about 4 grains); distilled water, 25 grammes (about 6½ drachms); and muriate of cocaine, 5 centigrammes ($\frac{3}{4}$ gr.). This to form the eye-drops, and the ointment to consist of white precipitate, 10 centigrammes (1½ gr.); oxide of zinc, 3 centigrammes ($\frac{1}{2}$ gr.); and ung. emolliens (cold cream), 10 grammes (5iiss.).

Syr. Ferri Hypophos. Co. (Parrish).

127/52. *Methyl*.—In Parrish's "Pharmacy" there are several formulæ for syrups of hypophosphites, but these are practically obsolete, and we should say that the prescriber who writes syr. ferri hypophos. co. (Parrish) had been thinking of syrup of phosphates at the time. You would not be wrong in giving the B.P.C. preparation in the circumstances.

The Size of Pills.

SIR,—I cannot imagine why "Lincs." used pulv. ext. hyoscyami [in making the pills containing 2 grs. of carbolic acid and 3 grs. extract of henbane]. The fresh extract triturated with the acid crystals yields a soft paste, which, when

evaporated with gentle heat, becomes a most satisfactory mass. The pills sent out from the Stores were doubtless divided into half-doses, as are the two which I enclose.

Yours respectfully,
Welwyn, September 11. EDMUND LAWRENCE. (128/30.)

[There is only one objection to the adoption of the above suggestion, and that, we fear, is fatal to it, viz., that the method not only keeps down the size of the pills, but certainly reduces their weight. Our correspondent sends us two pills made from 2 grains of carbolic acid and 3 grains of extract of henbane. The pills are rather soft and shapeless, and we find that their combined weight is barely 4 grains (3.98 grains). The heat employed has, in fact, vapourised some of the carbolic acid as well as water from the extract of henbane. It is against the rules to heat volatile substances at the dispensing-counter, and carbolic acid is exceedingly volatile.]

Quinine and Hypophosphite Mixture.

SIR,—I shall be thankful if you will inform me the proper mode of dispensing the enclosed prescription so as to form a clear mixture without the quinine sulphate depositing in a sticky mass:—

Sodii hypophosph.	.. .. .	3iij.
Liq. sodii arseniatis	.. .. .	3j.
Quininae sulph.	.. .. .	gr. xvj.
Tinct. limon's	.. .. .	5iv.
Aquæ chloroformi, ad	.. .. .	3viij.

Ft. mist.

Yours truly,
Sept. 7. QUINI. SULPH. (126/59)

[We do not have any difficulty with this mixture. Dissolve the hypophosphite of sodium in 4 oz. of chloroform water; rub the quinine to fine powder, mix with 2 oz. of chloroform water, and transfer to the bottle containing the hypophosphite solution, add the arseniate of soda solution, the tincture, and the rest of the chloroform water. From this mixture the quinine deposits in a readily diffusible form.]

Saccharin in Mixtures.

Cymro asks if in the following prescription should a few grains of potass. bicarb. be added to the saccharin in order to dissolve it?—

Tr. aurant.	3j.
Tr. nuc. vom.	5ij.
Tr. card. co.	3iv.
Ac. sulph. arcum.	5iiss.
Saccharin	gr. iv.
Aq. ad	3viij.

[We reproduce the formula merely for the purpose of showing how unnecessary the addition of an alkali is in such cases. Saccharin is a sparingly soluble acid forming very soluble alkaline salts, which, like benzoates, salicylates, and the like, are immediately split up by mineral acids. The presence of aromatic sulphuric acid in the above prescription indicates that it would be nonsensical to add an alkali. The plan to follow is to dissolve the saccharin in the mixed tinctures, and add the water gradually. A "shake the bottle" label should be used.]

Toothache Remedy.

SIR,—Can a presentable mixture be made of the following formula?—

Morphiæ hydroch.	.. .. .	gr. ij.
Argent. nitras..	.. .. .	gr. ij.
Acid. nit. dil.	.. .. .	gtt. ij.
Ol. caryoph.	.. .. .	3j.

M.

The above, given to me by an Irish M.D., is said to be the preparation used by the Queen's surgeon-dentist in Ireland. It is a capital remedy for toothache, the best I have ever tried, but it is very unsightly. The acid, I understood, was put in to convert the morph. murias to morph. nitras.

PINOL. (124/44.)

MISCELLANEOUS INQUIRIES.

A large number of correspondents ask us for formulæ which have already been published in this journal. It is not fair to more careful readers that we should frequently repeat such information, and so long as the back numbers containing the formulæ or replies required are in print we must decline to do so. Back numbers of our weekly issue can be obtained from the publisher at 4d. each.

Horse Powders.—See pages 300 and 668 of last volume. (121/30. *Coachman*.)

Sulpholine.—See page 30, January 7, 1888. (*Eblana*.)

Tooth-paste (without soap).—See page 506, April 14, 1888. (124/39. *Ricini*.)

Graph Composition.—See page 30, January 7, and page 497, April 14, 1888. (124/58. *Iodine*.)

Sticky Fly-papers.—See page 333, September 10, 1887. (127/12. *Forward*.)

Dentifrice Water.—See September 17, 1887, page 372; February 18, 1888, page 233; and February 28, page 259 (correction, April 14, p. 506). (128/23. *Alpha*.)

Mouth-wash.—See November 26, 1887, page 688, and December 3, 1887, page 716.

Books.

125/39 (*Aqua*) and 125/38 (*Junior*).—Wanklyn's "Water Analysis" (Triebner, 5s.).

125/42. *A. J. T.*—Messrs. Churchill & Co. are the publishers of the Medical Directory, but the Medical Register is published by Messrs. Spottiswoode & Co., Gracechurch Street, E.C.

126/13. *R. T. R.*—Balfour's "Elementary Botany" is a very suitable work to begin with, and is quite simple. It is published by A. & G. Black at 3s. 6d.

94/68. *Lewisiam*.—A good book on the manufacture of lozenges and confectionery is one published by Skuse, late of Marylebone Road, the price being 7s. 6d. It treats in a practical manner regarding all the details of the confectioner's art.

100/20. *S. W. W.*—The Mons. de Mussy alluded to is most likely Dr. Henri Guéneau de Mussy, who followed Louis Philippe's family to England, and for years practised medicine here. We cannot find in French publications the formula of an ointment proposed by him, and containing the extracts of opium, henbane, and belladonna. The following, official in the French Codex, may serve as a model for preparations of the sort:—

POMMADE BELLADONÉE.
(*Belladonna Ointment*.)

Extract of belladonna..	..	..	1 drachm.
Distilled water ..	..	..	30 minims.
Lard ..	..	..	6 drachms.

Dissolve the extract in the water, and incorporate with the lard.

A slight modification, say, 40 grs. of extract of belladonna, 30 grs. of extract of hyoscyamus, and 10 grs. of watery extract of opium, dissolved in 40 minims of water, and mixed with 6 or 7 drachms of lard would give a good ointment for articular rheumatism, and probably not differ much from Dr. De Mussy's formula.

117/28. *X. O. R.*—The outer incrustation of the shells is removed by polishing, we believe; acids should certainly be applied with caution.

120/22. *Wide Awake*.—(1) Dr. James's Fever Powder is represented in the Pharmacopœia by Pulvis Antimonialis. (2) See (119/55) page 344. (3) Natron Pp.—By this is meant crystallised carbonate of soda or prepared natron. Natron itself was the native carbonate of soda (*the* "mineral

alkali" so called), of which two kinds were recognised—viz., the common and radiated (prepared or crystallised). (4) The hardening of Confection of Sulphur is due to the evaporation of some of the moisture contained in it, and may be prevented by the addition of a small quantity of glycerine. (5) The simple chemical experiments will be found in our issues for December, 1886. We do not have the whole of the copies in print, but we may reprint that series of articles.

121/27. *Tygwyn*.—We presume that the Luminous Paint used in Paris for the names of the streets has a similar composition to Balmain's—viz., sulphides of the alkaline earths, especially barium. This is said to be made from decayed oyster shells.

123/65. *X. L.*—For hints regarding the collection of plants you cannot do better than consult Holmes's "Botanical Note-book" (T. Christy & Co., 3s. 6d.). It is desirable to secure some plants in the entire state—that is, with the root attached, and in all cases only those specimens should be selected which show prominently the chief characteristics of the species. It is possible in some cases to get a specimen bearing the flower as well as the fruit, and these should preferably be selected. These are points, however, in which you must be guided by the book which you use. The specimens should be placed in a vasculum in order to carry them home, and as soon as possible thereafter dried between sheets of grey blotting or filtering paper, renewed daily. A press may be used, but if you do not have that get two boards made (about 2½ ft. by 1½ ft.), place the specimens with the paper between these, and on the top board some heavy stones or other weights. When dry the specimens should be mounted on cartridge paper. You will find a formula for excellent mounting paste on page 259 (116/54). Spread some of this on a board, place the specimen upon it, taking care that all parts touch the paste; then lift the specimen by grasping the stem with a pair of forceps and transfer to the cartridge paper. Place a piece or two of the drying paper over the specimen, and put under the press for two days. If the stem is stout paste a piece of cotton tape at the back of the paper behind the stem, and sew down the stem with white linen thread. Label the specimen at the right-hand bottom corner with the name of the class, subclass, natural order, genus, species, where found, &c.

123/45. *Qui Haye*.—(1) You will find a formula for the preparation of fluid extract of malt on page 154 (August 4), and from this you can make Malt Syrup by adding 1 part of the extract to 4 parts of simple syrup. Another plan is to infuse 2 oz. of powdered malt in 10 oz. of warm water for half an hour, and make a syrup with the strained infusion. (2) Essence of Cherry.—Benzoic acid, 1 oz.; acetic ether, 5 oz.; benzoic ether, 5 oz.; cænanthic ether, 1 oz.; glycerine, 3 oz.; rectified spirit, 100 oz.; colour with aniline red and a little caramel. (3) Sheep-dip Powder.—This usually consists of equal parts of arsenic and sulphur, and may be coloured with burnt umber and odorised with a little crude carbolic acid. (4) Cucumber Pomade.—Lard, 10 oz.; veal suet, 6 oz.; tolu balsam, 10 grs.; rose water, 1 drachm.; cucumber juice, 12 oz.; melt the fats, and add the rose water and the tolu balsam dissolved in a little spirit. Heat until clear, pour into a basin, and add 4 oz. of the juice; stir with the fats for four hours, then pour off the watery liquid, and proceed in the same way with the remainder of the juice, finally separating the fat well from the juice, and beating the ointment well until it is uniform.

125/68. *E. J. A.*—Dextrin is generally used by printers for making Label Mucilage. The white variety must be used, and it should be dissolved in at least twice its weight of water, about 5 per cent. of glycerine being added.

124/42. *Viridis*.—The White Hard Spirit Varnish used by actors is a solution of yellow resin, 1 part, in methylated spirit, 4 parts, with about a tenth part of its volume of castor oil added to it.

NOTES ON CONFERENCE SUBJECTS.

BY GEORGE A. GRIERSON.

THE formulæ and papers submitted to the Conference, with the discussion thereon, as published in THE CHEMIST AND DRUGGIST last week, induced me to look up some notes made in my laboratory-book in the ordinary course of business. I submit them for what they are worth, with some conclusions drawn from them.

Tasteless Cascara.—When the magnesia process was first brought forward, a sample of liquid extract was made by it. In appearance it was elegant, in aroma tempting, in taste wanting, and so was it in cathartic action. Half an ounce each was given to several individuals on whom $\frac{1}{2}$ a drachm of the bitter preparation had a distinct action, and in each case the result was the same—no catharsis. It had, however, a distinct tonic effect, in that it produced an increased appetite, shown by a longing for meal times, in my own case most marked. Assuming that these results are correct—and the weight of evidence is in their favour—the inference is obvious: there must be present in the bark at least two principles—a tonic and a cathartic.

Therapeutists agree in ascribing to cascara these properties. That magnesia either combines with or decomposes the bitter and purgative principle (there is at present no evidence to show whether these are distinct or synonymous) must be admitted. If from its alkaline nature it combines with it, the acid of the stomach should liberate it, and the ultimate action should therefore be the same, provided only the compound can be introduced into the stomach. It has been shown that the compound is not in the fluid; is it insoluble and left in the marc? In order to settle this question, 2 drachms of ext. cascara liq. (bitter) were boiled with magnesia until tasteless, the product filtered, the filtrate and the insoluble matter each divided into two, and swallowed by two individuals, both susceptible to cascara. Result—*nil*.

It is evident, then, that the cathartic principle is decomposed. To further test this some bitter liquor was boiled with a soluble alkali (potash) until free from bitterness—the property of destroying the bitter is not peculiar to magnesia—and its purgative action was also found to be *nil*; if, however, a trace of bitter were left, a slight purgative action was apparent. Some experiments were then instituted with other bitters, and it was found that boiling with potash destroyed the bitters of both gentian and orange. It is illogical to speak of a modification of a process which must be based on a definite chemical action (the nature of which is at present unknown) producing a result directly opposed to the original.

Exhaustion of Ipecacuanha.—On *à priori* grounds only it must be apparent that 1 oz. of a dense substance like ipecac. can be exhausted equally well by maceration as by percolation. It was thought advisable, however, to put it to the test of experiment. (1) Five grammes of the root in coarse powder were macerated with 2 cc. acid acetic and 98 cc. sherry for fourteen days, thrown on a filter, and washed with wine to 100 cc. (2) Five grammes of the whole root were macerated for the same time and in the same way with the exception of the washing. Twenty cc. of each were removed by a pipette (in the latter case this was effected direct from the maceration bottle), and tested with Mayer's

reagent ($\frac{m}{20}$). Each required 3.6 cc. for complete precipitation of alkaloid. This proves that percolation and bruising are both unnecessary. A third sample was made omitting the acetic acid, and the amount of alkaloid shown was the same! Further, the sample made from bruised root deposited more abundantly than that made from whole. I refrain from comment on the last two results as they have led to a re-examination of the whole subject, which I hope to include in a separate paper as soon as the experiments are completed.

Syr. Ferri Phosph.—That the colouration of this syrup is not entirely due to charring of the sugar is shown by the fact that a liquor becomes brown if exposed to oxidation. That it is partly due to charring is evident from the fact that very old syrups have a distinct odour of caramel. If a liquor and a syrup made from it be both kept with moderate

care, the syrup becomes brown more quickly than the liquor. There must then be some connection between colouration and the presence of sugar. Caramel may be formed from sugar by the removal of two molecules of water. So loosely is this water held in combination that its removal may be accomplished by heat. Is it not probable that this water of combination which is held so loosely is removed by the sensitive ferrous phosphate, and its oxygen used in raising it to the ferric state? That peroxidation and colouration are directly related has been shown by Mr. Wright, and syrups which are colouring have an odour resembling that which accompanies the evolution of hydrogen. I have noticed this particularly in syrups made direct from iron wire; these become coloured very much sooner than syrups made from precipitated ferrous phosphate. *Syr. ferri phosph. co.* also, when made from iron wire, deposits continually, and for this reason the Conference formula is objectionable. The only reason I can assign is that there are more phosphates of iron than we know of, and that the one produced by dissolving Fe in phosphoric acid is different in composition to that made by precipitation, and is more sensitive to oxidising influences.

Syr. Hypophosph. Co.—When experimenting on the best method of preparing this the quinine was introduced as sulphate; it was found, however, that the syrup thus made developed on standing a disagreeable odour of phosphoretted hydrogen. Thinking that this might be due to the presence of sulphate the method was adopted of precipitating the quinine as alkaloid and washing till free from sulphate. A syrup carefully prepared in this way remained odourless. The addition of sulphuric acid to the liq. ferri hypophosph. is, therefore, highly objectionable. In using this method it may be interesting to note the amount of loss in washing the quinine owing to its solubility. This had been determined previously in the course of some experiments on the manufacture of Easton's syrup. A quantity of quinine sulphate calculated to yield 1,141 grs. quinine was taken, dissolved in half a gallon of water with the aid of H_2SO_4 , and precipitated with ammonia, which was used in excess. The precipitate was washed fractionally with one and a half gallons of water, that is, the water was added in small quantities at a time and allowed to drain before adding the next portion. In this way washing can be effected with less water. The quinine was then converted into syrup, and an analysis made of half an ounce. The quinine lost amounted to 12 per cent.

Citrate of Iron and Quinine.—Out of four samples of this recently obtained from leading London houses in the ordinary course of business only two came up to the pharmacopoeial standard. These contained respectively 15.3 and a little over 16 per cent. quinine. The other two contained under 14 per cent. In these cases the sellers when appealed to absolutely refused to admit that their preparations were wrong, and only succumbed in a most ungraceful manner when their sealed samples were reported against by two analysts of the first water. Citrate of iron and quinine is a favourite with public analysts, and if on this ground only the reprehensible practice of standing by preparations which they choose to call their own, indulged in by some wholesale houses towards their provincial customers, cannot be too highly condemned. It is in any case unscientific, but in this dangerous to the interests of the retail trade at large.

CORRECTIONS OF LAST WEEK'S REPORT.

In our report of the discussion on Mr. Holmes's aconite paper some remarks are attributed (page 305) to Mr. N. H. Martin, which were made by Mr. William Martindale, who also desires us to state that the caffeine salt which he recommends instead of the citrate for therapeutic use is the hydrobromate. This is a stable and soluble salt.

We have received the following note from Mr. D. B. Dott:—

"Messrs. Duncan, Flockhart & Co. ask me to correct a slip which I made in the discussion that followed the paper on 'Syr. Hypophosph. Co.' read at the recent Conference meeting. I ought to have said that three of the samples were Scotch and one English."

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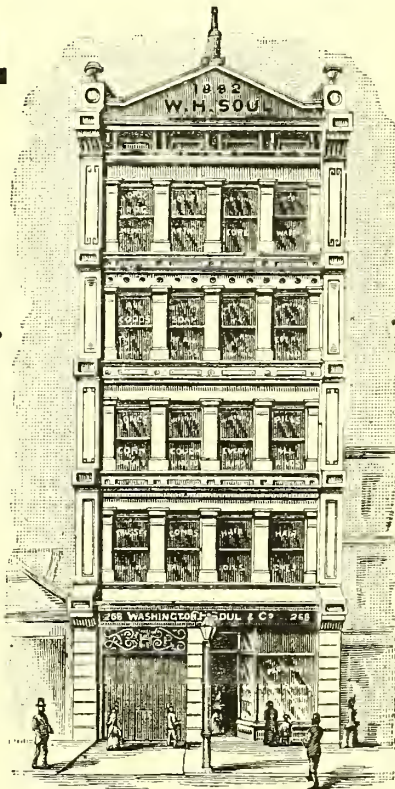
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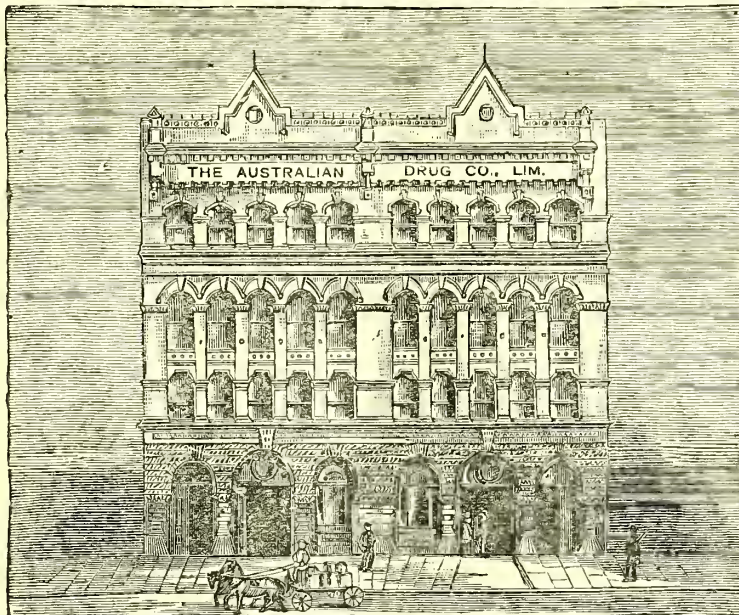
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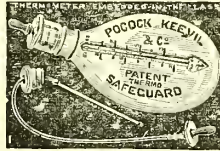
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Calcii Sulphid. ½, ¼, ¼, 1 gr.	1/8		Ferruginous (Bland's), 3 and	Manganese Binoxid Pur., 1 gr.	2/6
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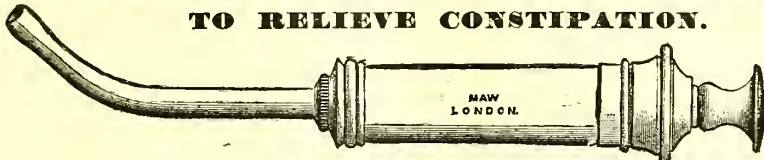
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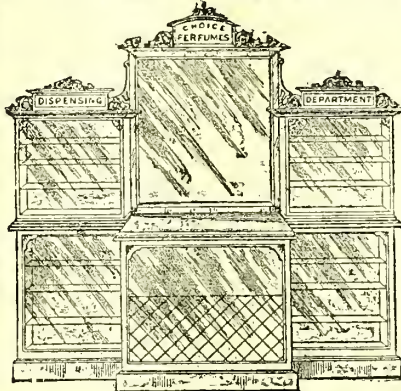
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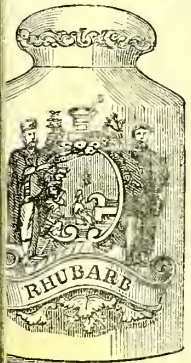
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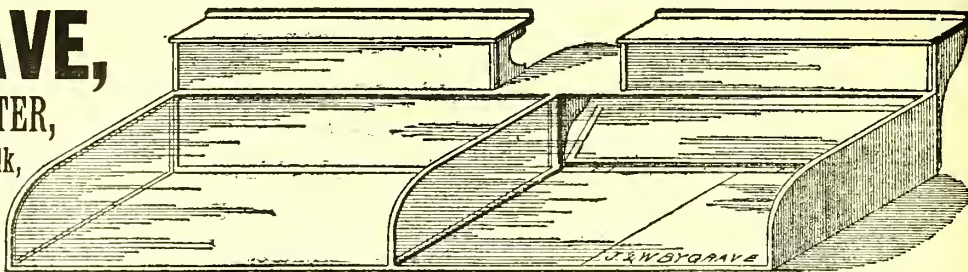
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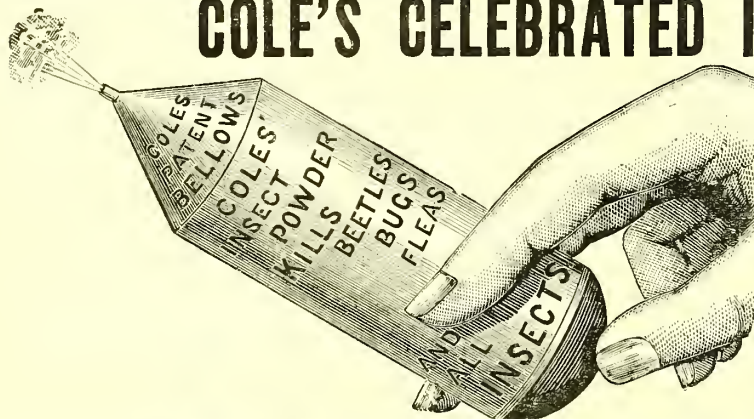
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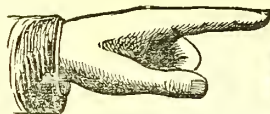
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THE only preparation which speedily removes Splints, Curbs, or Bony Formations; and the safest and most effectual cure for Bone-spavin, Ring-bone, and Side-bone, without leaving any mark or blemish, entirely superseding "firing."

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The Celebrated Trainer.

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"Yours truly, M. DAWSON."

From Mr. **W. GILBERT.**

"Park Paddocks, Newmarket, March 3rd, 1888.

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"T. C. P. CALLEY, Captain, 1st Life Guards."

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Pages 19–21.

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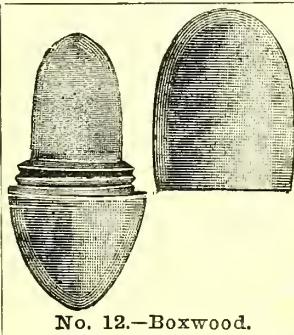
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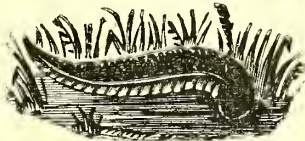
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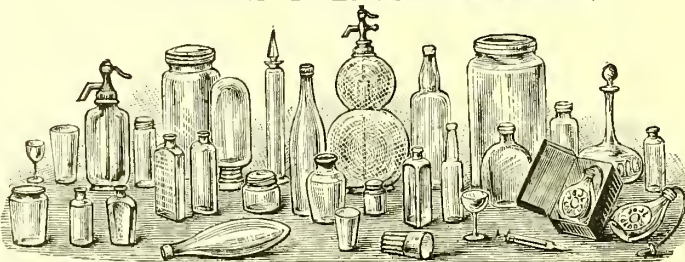
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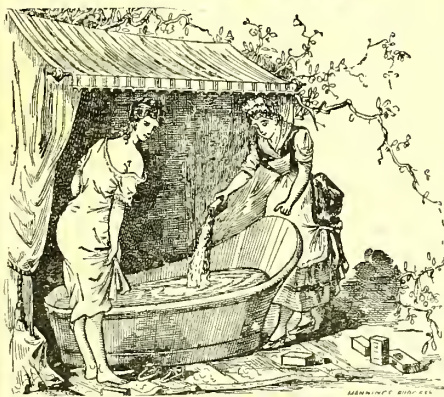
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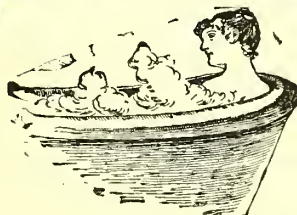
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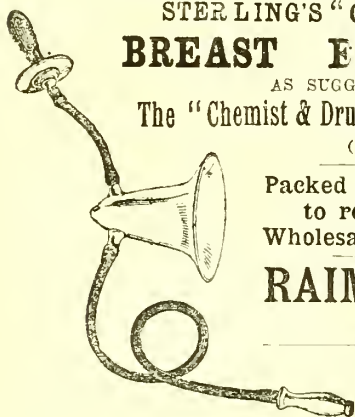
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But is admirably adapted for preparing Medicated Waters,

The following TESTIMONIAL will prove:—

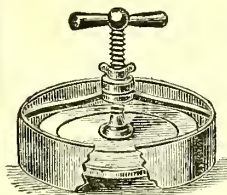


June 22nd, 1888.
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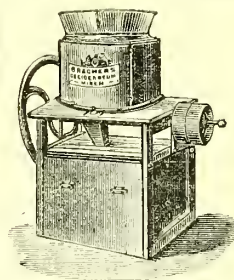
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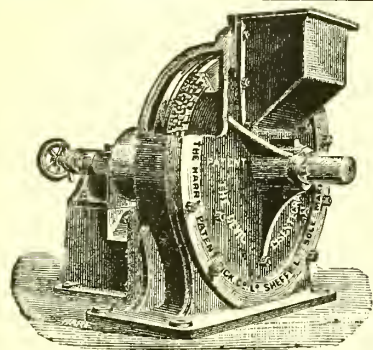
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This Machine will Grind to Powder, Granulate, or Shred any Material, Animal, Vegetable, or Mineral.



The following table gives some information as to the quantities of various classes of material the Machines will deal with per hour:—

MATERIAL	No. 1 Size Machine	No. 2 Size Machine	No. 3 Size Machine
Coal, Fine	10 cwt.	20 cwt.	50 cwt.
.. (for Briquettes)	20 ..	40 ..	200 ..
Lead Ore	30 ..	60 ..	140 ..
Slate	20 ..	25 ..	50 ..
Bones (Dry), Fine..	3 ..	20 ..	50 ..
.. .. Medium	5 ..	35 ..	90 ..
.. .. Coarse	7 ..	40 ..	110 ..
.. (Green)	3 ..	6 ..	15 ..
Hoofs and Horns ..	2½ ..	8 ..	20 ..
Rags	—	2 ..	5 ..
Indian Corn.. ..	5 ..	15 ..	40 ..
Wet Clay	—	20 ..	50 ..
Oak Bark	—	15 ..	30 ..

Purchasers should compare the quantities of material ground per hour with the capacity of other Machines. There is no other Grinder that will deal with anything like these quantities in the same time.

**CLOGGING
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The chief feature of this Grinding Machine is that it combines the centrifugal with the grinding action, and it can be adjusted to grind to any degree of uniform fineness while in motion. No Screens or Grates are required. Will Grind Wet or Dry Material, Clogging being impossible.

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Boxes ready made up, or the Patent Tops only (ready for making up), are supplied.

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THE NEW TIN BOXES are also perfect for Tea, and Coffee Canisters, Biscuit Boxes, Confectionery, Paints, Oils, Varnishes, Soaps, &c.

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IN THE HIGH COURT OF JUSTICE, CHANCERY DIVISION.

GRIFFIN v. NOAKES. 1887. G. No. 1,088.

GRIFFIN v. FRAVER. 1887. G. No. 1087.

As we understand from some of our Clients that, from false representations made, an impression prevails that the proceedings in these actions have failed, we beg to inform the public that such is not the fact, and that the proceedings are being carried on as fast as possible, in the Chancery Division of the Court, to restrain the Defendants from selling or making Tins similar to those manufactured by us, and from infringing our Patents. The Defendants, pending the proceedings, have been ordered by the Court to keep an account of all sales made by them. Our Solicitors, Messrs. CLARKSON, GREENWELL & Co., have had instructions from us to proceed against all persons so offending.

FOR THE SELF-OPENING TIN BOX COMPANY, G. FEATHERSTONE GRIFFIN, Manager.

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RECEIVING WHARVES—EAST, Bow, Atlantic Wharf. SOUTH, Old Kent Road, Western Wharf, RIVER, Millwall, St. Andrew's Wharf.

Empties may also be delivered for our account to Palmer's Wharf, Bethnal Green; Thames Haven Petroleum Wharf, Thames Haven; or any Railway Depot within 4 miles of the Royal Exchange, London.

N.B.—All Empties delivered at a Railway Depot as above will be collected at our expense. No charge to the Sender.

The same price paid for Russian as for American Barrels.

OUR PRICE to-day for fresh emptied Blue and White American Barrels in sound condition, and that have last contained refined American or Russian illuminating oil, is 3s. 3d., delivered at Atlantic or Palmer's Wharf, 3s. 2d. delivered at a Railway Depot. For barrels branded with our brand, "Lustre," we pay 1d. additional.

Parcels of 15 barrels and over collected at sellers' own premises if within 4 miles of the Royal Exchange, London, and the same price given as would be paid by other Receivers for delivery at their wharf.

NOTICE.—In the case of Empties sent for our account to a Railway Depot or to Palmer's or Thames Haven Wharf, please advise us when sending, and mark the barrels with K in Yellow Paint that we can recognise them. In the case of sellers wishing us to collect from their own premises, we shall be glad of two days' notice.

DEDUCTIONS FOR DAMAGE.—Broken Chimb or Stave, 6d.; broken Head, 6d. to 1s. 6d., according to extent of damage.

THE KEROSENE COMPANY, LIMITED, 26 GREAT ST. HELENS, LONDON, E.C.
IMPORTERS OF RUSSIAN PETROLEUM.

S.V.R.

PURE GRAIN SPIRIT 56 O.P. ... 18/5

Do. Do. DOUBLE DISTILLED 18/9

Cash with Order. Reductions for Larger Quantities than Two Gallons.

SAMPLES FREE.

STEPHEN SMITH & CO., BOW, LONDON, E.

S.V.R.

SPECIALITY FOR PERFUMERY.

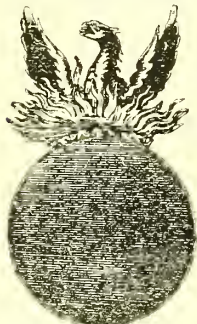
This pure grain spirit, which has been thrice rectified and filtered through charcoal, is being largely used in making high-class Perfumes.

Price, 19/-, 56 o.p.; 19/6, 60 o.p. Cash with order.

Reductions for Larger Quantities than Two Gallons.

STEPHEN SMITH & CO., BOW, LONDON, E.

COLTHURST & HARDING,



BALL DENOTES
COLOUR OF PAINT.

BRISTOL—Manufactories: Phoenix Wharf and Temple Gate. Offices: Temple Gate. Telegrams: "Phoenix Bristol."

LONDON—Manufactory: Alpha Works, Millwall, E. City Office: 16 Fish Street Hill, E.C. Telegrams: "Alpha Brand London."

HARD LUSTROUS ENAMEL,
IN ALL THE ART SHADES.

For all kinds of decoration on Wood or Iron. Dry with a surface like Porcelain. Sold in small or large Tins, or in bulk. Prices and shades on application.

WHITE LEAD, ZINC WHITE,
PAINTS & COLOURS OF ALL KINDS.

MIXED PAINTS READY FOR USE,
In Tins, 1, 2, 4, 7, and 14 lbs. each.

HIGH-CLASS VARNISHES

Of all kinds, for Coachbuilders, Decorators &c.

OIL BOILERS, REFINERS & MERCHANTS.

Export Orders receive special and prompt attention.

REVOLUTION IN THE FLY PAPER TRADE.

It must have been observed that for some time the public have become disgusted with the old poisonous fly paper, and have taken somewhat readily to a sticky sort of substitute.

The advertiser has perfected and patented a Fly Paper of this nature, which will certainly be the leading thing in this way in the future. It is a well got-up and effective paper, and is as cleanly to handle as a sheet of note-paper.

In the advertiser's own retail establishment last season the sale of this was simply enormous, as they were freely used by tradespeople (butchers, bakers, grocers, and confectioners), who would not dare to risk the danger from dead poisoned flies about their stock. Owners of horses and cowkeepers were delighted with them, as they spared the animals the torture from this source.

From the nature of the article it cannot very well be stocked by Wholesale Houses for distribution to the Retail Trade, but the Parcel Post will carry them direct from the maker, and Postal Orders will facilitate remittance.

The price is 4/6 per gross (carriage free), but where a large trade is developed more liberal terms will be given.

Send sample order for small lot, and while the season is on you are bound to a big thing.

ADDRESS—

S. WILSON, CHEMIST, ST. HELENS, LANCs.

PURE

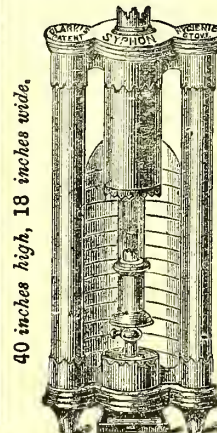
SPIRITS OF WINE.

60 o.p., 20/3 per gall.; 56 o.p., 19/9 per gall.

1/ per Gall. Discount for Cash with order.

Further allowance for quantity. STEAM STILLs ONLY.

GEORGE PHILLIPS & CO.,
ST. ANDREW'S DISTILLERY, CLERKENWELL RD.
LONDON, E.C.



40 inches high, 18 inches wide.

THE "SYPHON"

(REGISTERED TITLE)

(CLARK'S PATENT)

GAS HEATING STOVES.

NO FLUE REQUIRED.

No smoke. No smell. No dirt or trouble. No danger. All sulphurous vapours are condensed inside the Stoves, and passed off as a liquid into tray beneath. The ONLY SAFE ones for use in Hospitals, Sick Chambers, Greenhouses, Bedrooms, Halls, Shops, Offices, Churches, Schools, &c. BEWARE OF IMITATIONS.

Price Lists and Terms on application to

S. CLARK & CO., Patentees
"Syphon" Works, Park St.,
ISLINGTON, LONDON, N

40 HIGHEST AWARDS.

“A NEW DEPARTURE.”

THE growing demand for our preparations in Great Britain and the Colonies has rendered it necessary for us to establish a branch of our American house in London, and we, therefore, have pleasure in announcing that we have taken temporary premises, and opened a warehouse under the style of

SEABURY & JOHNSON,

which is under the personal charge of an officer of the corporation. By this means we shall be brought into more direct relations with the trade of Great Britain and those firms of the Colonies who draw their supplies from London. We shall carry full stocks of all our products, some of which the trade have been unable to obtain through our late agency, and shall be able to execute with the utmost promptness orders for any of our goods and in any quantities that may be required by the home or export trade.

Heretofore we have been unable to offer a **Complete Line** of our **Antiseptic Specialities**, which have followed the development of Listerism. We now propose to place before our medical friends a

COMPLETE SURGICAL AND ANTISEPTIC ARMAMENTUM,

the excellence of which they will thoroughly appreciate.

The manufacture of **Pharmacopœial and Surgical Plasters** in rubber combination, as well as the preparation on a commercial scale of most of the **Antiseptic and Surgical Dressings and Absorbents**, is an industry created by this house. The growing proportions of the demand for this class of products, which has been created by the progress of surgery and medicine, seconded by our own practical efforts, has led a number of manufacturers, unequipped with either the facilities or the pharmaceutical skill for properly producing these goods, to enter the field, and the low prices at which inferior preparations are offered have tempted some purchasers to favour their goods in preference to ours. The difference in price is doubtless a tempting bait to the trader, who may, perhaps, get an extra discount for selling new or unfavourably-known goods, but where a comparison of merits is had by actual use, the results attending low-priced products are unsatisfactory to the Medical Practitioner and the Surgeon.

S. & J. Specialities may be obtained from all the leading Wholesale Druggists, Druggists' Sundrymen, and Patent Medicine Houses.

Indentors, to prevent disappointment, should specify that the goods are to be of

SEABURY & JOHNSON'S manufacture.

SEABURY & JOHNSON,

PROPRIETORS,

SEABURY PHARMACAL LABORATORIES,

NEW YORK AND LONDON.

TEMPORARY PREMISES—47 FARRINGDON STREET, LONDON, E.C.

MEDICINAL GELATINE CAPSULES

						Containing	30	36	48
Cascara Sagrada (5 mins.), in round boxes						Per dozen	7/-	In oval screw-cap bottles	—
Castor Oil, in square boxes						5/-	Ditto	ditto	5/6 — 8/-
Cod Liver Oil, in square boxes						7/-	Ditto	ditto	— 8/- —
Copaiba, without Name, in oval boxes						4/9	Ditto	ditto	5/6 — 8/-
Copaiba, with or without Name, best, in oval boxes						5/9	Ditto	ditto	6/6 — 9/-
Copaiba, Flexible, in oval boxes						6/-	Ditto	ditto	6/9 — 9/6
Copaiba, Flexible, larger, in oval boxes						8/-	Ditto	ditto	— 10/- —
Copaiba and Cubeb, in square boxes						9/-	Ditto	ditto	— 11/- —
Copaiba, Cubeb, and Buchu, in oval boxes						8/-	Ditto	ditto	— 10/- —
Copaiba, Cubeb, and Sandal-wood Oil, Flexible, in oval boxes						17/-	Ditto	ditto	17/- — 25/-
Oil of Male Fern (18 drops), in square boxes						17/-	Ditto	ditto	— 18/- —
Sandal-wood Oil, Flexible, English, in round boxes						26/-	Ditto	ditto	— 30/- —
Sandal-wood Oil, Flexible, Foreign, in round boxes						20/-	Ditto	ditto	— 23/- —
Tar, Norwegian, in square boxes						6/-	Ditto	ditto	— 7/- —
Terebene, pure (10 drops), in round boxes						12/-	Ditto	ditto	13/- — 20/-
Turpentine, in square boxes						6/-	Ditto	ditto	— 7/- —

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

S. MAW, SON & THOMPSON, LONDON.

MAW'S MENTHOL CONES

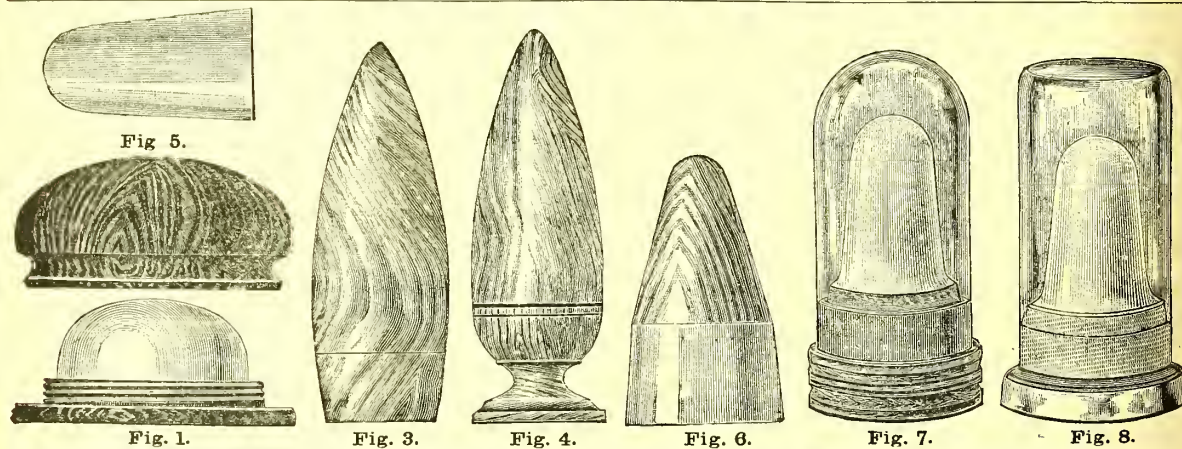


Fig. 1.	In Ebony Cases, flat for the pocket	...	...	...	...	...	Per doz.	6/-
	In Boxwood Cases, per doz., 3/- and 4/-; in Vegetable Ivory	...	...	...	...	...	"	6/-
Fig. 3 & 4.	In Boxwood Cases, per doz., 2/8 and 4/-; in Vegetable Ivory	...	...	...	...	...	"	4/- and 6/-
Fig. 5.	In White Opaque Glass Jars with Red Celluloid Caps	...	...	...	...	...	"	2/6 and 3/6
	Mounted, in Stoppered Bottles	...	...	...	...	...	"	6/6
Fig. 6.	Mounted on Vegetable Ivory, in Glass Bottles, Screw Metal Caps	...	...	...	...	...	"	4/6
Fig. 7.	On Boxwood Mounts, Glass Covers	...	...	...	...	...	"	3/6 and 5/9
	On new Glass Mounts, Glass Covers	...	...	...	...	Per doz.	3/6, 4/-, 5/6, and 8/-	
Fig. 8.	On Glass Mounts with Glass Covers	...	...	...	...	Per doz.	4/6 and 6/-	

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

S. MAW, SON & THOMPSON, LONDON.



CHEST PROTECTORS.

PRIZE MEDAL,



SYDNEY, 1879.

The Felt we use is manufactured specially for us from the finest quality Lamb's Wool.

WE DON'T SEND OUT SECOND QUALITY.

LYNCH'S "CUIRASS."

Scarlet or White Felt

PER DOZEN

No. 1 ...	...	...	24/-
" 2 ...	...	...	30/-
" 3 ...	...	...	36/-
" 4 ..	...	...	43/-
" 5 ...	...	...	54/-
" 6 ...	...	...	66/-

SCARLET or WHITE FELT, per dozen.

READNOUGHT (Double) ...	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
...	16/6	22/-	27/-	33/-	44/-	50/-
GENTLEMEN'S Single ...	10/-	11/6	13/6	16/-	21/-	27/-
LADIES' Single ...	7/-	9/-	11/-	13/6	19/-	22/-

CHAMOIS LEATHER, lined with Flannel, per dozen.

GENTLEMEN'S, Single ...	10/6	12/6	14/6	17/-	23/-	—
LADIES' Single ...	7/6	9/6	11/6	14/-	20/-	—

WAISTCOAT PATTERN.

CHAMOIS & FLANNEL ...	23/-	31/6	40/-	49/6	61/-	71/-
FELT, Scarlet or White ...	20/-	28/6	36/-	44/-	54/6	67/-

CUIRASS JACKETS,

With half-sleeves buttoning down front, made of Perforated Chamois Leather and Porous Scarlet Flannel.

Size	No. 1	No. 2	No. 3	No. 4
Each	32 by 18 in.	34 by 18½ in.	37 by 20½ in.	39 by 21 in.
	6/6	7/6	8/6	9/6

Less 10 per cent. for Cash Monthly; 5 per cent. Half-yearly account.

Special Quotation for £10 worth and upwards.

SEE ILLUSTRATIONS TO PART I. OF CATALOGUE.

LYNCH & CO., ALDERSGATE ST., LONDON, E.C.; & MELBOURNE.

SOLE IMPORTERS

OF

**APOLLINARIS WATER,
FRIEDRICHSHALL WATER,
HUNYADI JÁNOS WATER,**

THE APOLLINARIS CO., LIM.

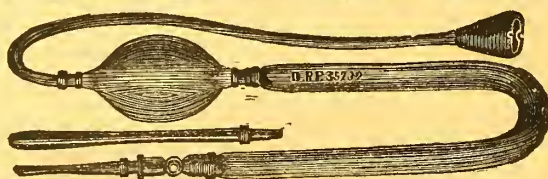
19 REGENT STREET, LONDON, S.W.

SPECIAL PRICES ON APPLICATION.

Cadbury's Cocoa IS SOLUBLE
and ABSOLUTELY PURE. ABSOLUTELY PURE.

THE "ALPHA" SYRINGE

A CONTINUOUS ENEMA.



Patented in England, France, Germany, U.S. America, and Canada.

IT POSSESSES THE FOLLOWING NOVEL AND MOST VALUABLE QUALITIES:—

- 1.—It throws a continuous stream of fluid with less than half the exertion which is required to work the ordinary elastic bulb syringes, many of which tax the strength, even of a man's wrist, after the first few compressions.
- 2.—The "Alpha" being made of pure Indiarubber far outlasts all ordinary Syringes; it is, therefore, considerably cheaper in the end than they.

PRICE 60s. PER DOZEN.

TO BE OBTAINED OF ANY DRUGGISTS' SUNDRYMAN, OR FROM THE SOLE AGENTS—

R. Sumner & Co.

WHOLESALE AND
EXPORT DRUGGISTS, LIVERPOOL.

THE CHEMIST & DRUGGIST

SUPPLEMENT.

Businesses Wanted.
Businesses for Disposal.
Premises to Let.
Auction Sales.

SATURDAY, SEPTEMBER 15, 1888.

Partnerships.
Situations Vacant.
Situations Wanted.
Miscellaneous.

This Supplement will be given free to any Chemist and Druggist or Assistant who will call for it at 42 Cannon Street on Friday afternoon, or will be posted on Fridays to any one who sends an addressed postal wrapper.

ADVERTISEMENTS for this Supplement can be received on FRIDAY MORNING, first post, though it is requested that these may be sent in as early in the week as possible.

EXCHANGE COLUMN ADVERTISEMENTS will appear on page 8 (bottom folio), and must be received not later than THURSDAY AT NOON, to appear in the issue of the Saturday following.

All Advertisements for this Supplement and Exchange Column must be prepaid. Remittances payable to EDWARD HALSE, and crossed MARTIN & Co.

OFFICES: 42 CANNON ST., LONDON, E.C.

EXCHANGE COLUMN FORMS

Can be had on application to the Publisher, at the Offices,
42 Cannon Street, London, E.C.

CHEMISTS' TRANSFERS.

MESSRS. ORRIDGE & CO., 32 LUDGATE HILL, E.C.

CHEMISTS' TRANSFER AGENTS,

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

The business conducted by Messrs. ORRIDGE & Co has been known as a Transfer Agency since the year 1846, and is well known to all the leading firms in the Trade. VENDORS have the advantage of obtaining an opinion on value derived from extensive experience, and are in most cases enabled to avoid an infinity of trouble by making a selection from a list of applicants for purchase, with the view of submitting confidential particulars to those alone who are most likely to possess business qualifications and adequate means for investment. PURCHASERS who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain.

1.—LONDON, N.—Handsome Pharmacy; Retail and Dispensing, of good class; returns nearly £700, *with good profits*; large and convenient house; price about £550 or offer.

2.—LONDON SUBURB.—Good-class locality; very old-established well-fitted Dispensing and Retail Business; held by the same family many years; returns £550 yearly; comfortable house, private entrance; special reason for sale; offer wanted.

3.—LONDON.—Wholesale and Retail Business; very old-established and of good class; returns at present at the rate of £4,000 yearly; rapidly increasing; large and convenient premises; every opportunity given for the fullest investigation; about £2,000 required.

4.—LONDON, S W.—Good-class Retail and Dispensing Business; returns under manager about £500 yearly, capable of great extension; shop well fitted and good stock; with good house, vinery, &c., attached; price £5 0. Part may be paid by instalments.

5.—MIDDLESEX.—Very old-established Business, Dispensing and Retail, situate in good locality; returns £1 650; large well-fitted shop and good stock; good roomy house, with private entrance; price £1,350.

6.—ESSEX.—Mixed Retail Business; returns £1,700 yearly, *with good profits*; comfortable house; moderate rental; terms, small premium and valuation of stock and fixtures.

7.—YORKSHIRE.—Main and Branch Business for disposal; Mixed Retail and Prescribing; returns over £1,400 yearly; *net profits* over £400; good house and garden to each; low rentals; genuine concerns; no premium required; valuation only.

8.—MID-KENT.—Attractive locality; good-class Business; held by the vendor 18 years; returns average over £750 yearly, *with good profits*; full prices are obtained; well-fitted attractive shop and good stock; price £700.

9.—SURREY.—Pretty locality; Main and Branch Business for disposal; business of good class; Retail and Dispensing; returns over £1,200 yearly; *net profits* £400; premises large and convenient; price £1,100.

10.—SOUTH DEVON.—Good town; old-established Business, Retail, Dispensing, and Prescribing; good position; returns about £500; capable of great increase; good house, &c., attached; price about £400.

11.—YORKSHIRE.—Small increasing Business of good class for disposal through illness; returns £400 yearly; well-fitted shop and good stock; price £350, or offer.

12.—LIVERPOOL.—Prescribing and General Retail; returns at present about £350 yearly; large double-fronted shop and good stock; convenient house; price £250.

13.—NORTH OF ENGLAND.—Retail, Prescribing, and Dispensing Business, with profitable Agency attached; returns last year over £2,000, with nearly £500 *net profits*; large handsomely-fitted shop and good stock; about £1,500 required.

14.—HOME COUNTY.—Good town; Retail and Dispensing Business; held by vendor several years; returns last year £835; well-fitted shop and good stock; convenient; price about £800; business genuine, and worth attention.

N.B.—NO CHARGE TO PURCHASERS.

Other Businesses, Town and Country; particulars free on application. Personal applicants receive Messrs. O. & Co's direct attention and advice, where required, free.

TERMS FOR VALUATION ON APPLICATION. APPOINTMENTS BY POST OR WIRE HAVE IMMEDIATE ATTENTION. Messrs. ORRIDGE & Co. invite communications from COLONIAL and FOREIGN firms; where business of a confidential nature requires the especial attention of a London agent.

ORRIDGE & CO., 32 Ludgate Hill, LONDON, E.C.

PARSON C. BAKER,

8 Stockbridge Terrace, Victoria Station, S.W.

CHEMISTS' VALUER & TRANSFER AGENT.

1. DURHAM	Returns	£1,650.	Rent	£75.	Price	£1,000
2. CHESHIRE	"	1,300.	"	55.	"	700
3. STAFFORDSHIRE	"	1,200.	"	60.	"	1,150
4. KENT	"	1,000.	"	60.	"	600
5. LIVERPOOL	"	850.	"	50.	"	670
6. KENT COAST ...	"	660.	"	52.	"	400
7. ESSEX.....	"	600.	"	22.	"	400
8. LINCOLNSHIRE ...	"	500.	"	45.	"	250
9. ESSEX.....	"	450.	"	50.	"	375
10. LONDON, N.	"	400.	"	45.	"	187
11. NOTTINGHAM ...	"	400.	"	25.	"	130
12. HANLEY	"	330.	"	30.	"	250
13. HAMMERSMITH ...	"	240.	"	40.	"	180
14. LONDON, W.	"	200.	"	20.	"	200

Some of above, newly established, increasing rapidly.

THOS. TOMLINSON & SON,
CHEMISTS AND DRUGGISTS' VALUERS,

9 New Cannon St., MANCHESTER,

Have the most experienced Practice in the Profession.

INVENTORIES AND OPEN VALUATIONS FOR
STOCKTAKING OR OTHERWISE.**TENDERS.**

3s. 6d. for fifty words; 6d. for every 10 words beyond.

IMPORTANT.—Sale by Tender.—F. J. Brett, Leicester, is instructed to sell by tender, by the owner, Mr. J. Asher, 15 Market Place, Driffield, who is retiring, in one lot, as a going concern, the old-established Business, as now and for the last 10 years successfully conducted by Mr. Asher: the business is a good country retail, family, prescribing, and agricultural trade, with mineral water factory: there are several proprietaries in good local demand; the house and shop are large, with extensive premises; the town has a good market, is very healthy, and is in the centre of one of the best agricultural districts in Yorkshire; tenders will be opened on Wednesday, September 19, 1888. Tender forms and all further particulars can be had of F. J. Brett, Valuer, 60 St. Stephen's Road, Leicester.

TO LET.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

GOOD Opening for Chemist and Druggist in growing and populous locality of seaside town; no chemist, &c., near; large showy premises; moderate rent. C., 126 Springfield Road, Brighton.

TO CHEMISTS.—Shop and Good House to be let in main thoroughfare (against station and church), where there is good opening for this business, as it is much wanted; rent low. Apply, 3a Church Road, Homerton.

PARTNERSHIPS.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

PARTNER wanted, with £500, by an old Chemist established 33 years in West-End, London; annual clear profit warranted to the partner £200. Address, Octavius Smith, 5 Broad Street, Golden Square.

PARTNERSHIP.—Advertiser, a Pharmaceutical Chemist by examination, wishes to meet with a good business man, with capital, desirous of starting (as working partner) a "cutting" firm in an agricultural market town. Apply, H. H., Times Office, Grantham, Lincolnshire.

BUSINESS WANTED.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

A GENUINE Chemist's Business; must bear the strictest investigation; with a net profit of about £250. Particulars, with cash price, to G. W., care of Messrs. Barron, Harveys & Co., Giltspur Street, City.

BUSINESSES FOR DISPOSAL.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

DERBYSHIRE.—A first rate Dispensing Business, with specialities, to be disposed of; price say £1,000; full particulars given. Apply, "Plasters," care of Seabury & Johnson, 47 Farringdon Street, E.C.

A N Old-established Chemist and Druggist Business for sale; returns £500, and increasing; price about £400; liberal terms to an immediate purchaser. Apply, X. Y. Z., care of Messrs. Southall Bros. & Barclay, Birmingham.

FOR Sale, an old-established Chemist's Business in a good thoroughfare in Leeds; returns, last year, about £300, including £200 for dentistry; good house and shop; price £350; owner selling on account of ill-health. Apply, E., care of Hirst, Broome & Hirst, Leeds.

HOMOEOPATHY.—An old-established Homeopathic Pharmacy for disposal; the only one within a radius of 30 miles; satisfactory reasons given for leaving; liberal terms to an immediate purchaser. Cowdery, 4 Parade, Northampton.

£400.—Chemist and Dentist's, N.; situated in one of the best marketing thoroughfares in London; 5 minutes from Shoreditch station; grand position; thorough genuine business; hear every investigation; established 57 years; hand-ome fitted shop; 8 rooms; rent only £50; lease 18 years. Apply to Mr. Batcheler, Auctioneer, Dalston Junction, Stamp.

HOME COUNTRY, pretty locality within 30 miles of London; a thoroughly genuine Light Rail Business, returning £800 at full prices; rent £40; good house, long lease; satisfactory cause of sale; price about £500; an opportunity seldom offering at the price. "Alpha," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

MUST be Disposed of.—An old-established ready-money Chemist and Druggist Business, with good saleable proprietaries; average returns £850, can be greatly increased; no reasonable offer refused an immediate purchaser; ill-health cause of sale; this is an opportunity seldom met with. P., 41 Stone Street, Maidstone.

PLYMOUTH.—Proprietor desires to dispose of his Branch Business, 94 Treville Street (established 1812); main thoroughfare and centre of Plymouth; lease expiring to be renewed; incoming small and easy; a bargain to a cash purchaser. F. Maitland, 31 Chapel Street, Stonehouse, Plymouth.

To be disposed of by September 30th, old-established Chemist's Business, in good market town; double-fronted shop, mabogany-fitted throughout; exceptional chance for beginners; any reasonable offer entertained from immediate cash purchaser; vendor, having another business, must sell; this should be seen. "Proprietor," 1 Bradford Street, Cherry Orchard, Sbrewsbury.

HANTS.—Good class Retail, Dispensing, and Prescribing Business; returns £400; corner shop, well situated in main street, nicely fitted in modern style, well stocked; good house with side entrance; rent £60; to bona fide purchasers full particulars; reasonable offer entertained. Apply, "Hants," Messrs. Hodgkinson, Treacher & Clarke, Upper Whitecross Street, London. No agents.

A BARGAIN—Profitable little concern; established 50 years; returning under management £450; half profits; large manufacturing district; no opposition; rent £25; price £200; proprietor is buying another business, so could take the stock, thus reducing purchase to very nominal sum (about £70). "Medicus," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

LANCASHIRE.—An old-established good general mixed Business, well situated in the best part of a good town in the north-eastern division, to be disposed of only on account of ill-health; rent £45; returns 1856, £840; in 1887, £946; price to an immediate cash purchaser, £600. Apply to A. M. Hugill, care of R. Sumner & Co., Wholesale Druggists, Liverpool.

To Medical Officers—Surgeon Dentist's, Dispensing, Prescribing, Allopathy, and Veterinary Business, North of Scotland, established 20 years; convenient house, attached large garden; centre of city; stock and house furniture, £350; profitable investment seldom met; yearly rental £30; immediate entry to house and shop. "Aster," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

SITUATIONS OPEN.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

JUNIOR Assistant wanted. W. R. Hues, Chemist, Handsworth, Birmingham.

TRAVELLERS wanted.—Apply to Seabury & Johnson, 47 Farringdon Street, E.C.

A JUNIOR or Improver, immediately; Mixed country Business. Gant Raunds, Thrapston.

ASSISTANT, about 22 (indoors), for light Retail and Dispensing. Apply, with full particulars and enclose photo, to J. Brown, Sheep Street, Rugby.

WANTED, Junior Assistant for General Business and Country. Wholesale; easy hours, no Sunday duty; strict investigation as to character. "Manager," 5 Norfolk Street, King's Lynn.

COMPETENT Assistant, with knowledge of Dentistry, for high-class Retail; indoors. Apply, with full particulars, to J. Parrott, Chemist, 111 Molesey, Surrey.

WANTED, early in October, a Junior Assistant for good-class country retail; must be a reliable dispenser. Apply, with photo (to be returned), to Chalmers & Son, Newport, Salop.

WANTED, Junior Assistant for the Wholesale Drug Trade in provincial house. Say age, experience and class of work, also wages required, to X. Y., care of Horner & Sons, Mitre Square, Aldgate, London.

DRUGGISTS' Sundries and Surgical Appliances: competent Assistant required. Apply, Seabury & Johnson, 47 Farringdon Street, E.C.

DISPENSER wanted; age about 24; qualified preferred; would be required to sleep in the house and board out. Apply, stating salary required, to "Chemist," 74 New Bond Street, London.

WHOLESALE Drug Trade.—Required, a Laboratory man well up in making P.B. tinctures, &c. State experience, salary, &c, to laboratory, Office of THE CHEMIST AND DRUGGIST, 42 Cannon St., E.C.

QUALIFIED Assistant: age about 24; good counterman and dispenser, and accustomed to a good-class country business (junior up). Apply, stating age, height, salary, references, and enclose photo, to the Chemist, Newmarket.

DENTAL Pupil.—A Dentist, residing at seaside, has a vacancy for a well-educated youth as Pupil: Christian family, and facilities for acquiring a thorough knowledge of the profession; highest references given. For terms, address, "Licentiate," 68 High Street, Ramsgate.

A GENTLEMAN educated for the medical profession, or who has been engaged as Pharmaceutical Chemist, may be of congenial and remunerative employment by addressing T. M., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

SOUTH OF FRANCE.—An Englishman, qualified, competent, and experienced Dispenser; age about 25; knowledge of French immaterial. "Pharmacies," care of Burgess, Willows & Francis, 101 High Holborn, London.

SENIOR Assistant, indoors (aged 26 to 30); thoroughly competent man to assist in the detail of a large Retail business; permanent and liberal appointment to suitable man. Address, stating age, height, salary, references, &c., "Chemist," 4 Pembroke Road, Booth, Liverpool.

WHOLESALE Drug Trade.—Required, a Traveller for the Northern Counties; must have experience and some connection. Apply, with full particulars as to ground, salary, and expenses, to "Traveller," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

QUALIFIED Assistant required: experience in Dentistry and Cattle Medicines desirable; light Retail business in West of England; send full particulars and photo; permanency. W., care of Hearon & Co., Coleman Street, London, E.C.

WANTED, at once, an Assistant for the Counter, Haymarket Stores; must have passed the Prelim.; hours 9 to 7; outdoors. Apply by letter only, stating salary required and other particulars, The Chemist, 3 Haymarket, London, S.W.

TRAVELLER, to call upon Surgeons, Confectioners, &c., about three days a week and to assist in Warehouse when at home. State age, height, experience, references, salary required, and enclose carte, Hicks & Co., Cardiff.

JUNIOR Assistant, a quick and accurate dispenser, good writer, for first-class family and dispensing business; state age, experience, height, salary expected (indoor), and references, also enclose photo, which will be returned. T. O. Taylor, Long Row, Nottingham.

WANTED, a steady and trustworthy Youth, who has served part of his time, for Mixed Country trade; good home and time for reading and recreation given; abstainer preferred. Apply, with particulars of terms, &c., to J. H. Downing, Chemist, Southwell, Notts. Applications not answered in three days declined.

A QUALIFIED Assistant, to manage a Branch; indoors; must be an accurate Dispenser and good Counterman; character must bear the strictest investigation. Apply, stating full particulars, with photo, salary required, age, experience, and references, to James Lees, 217 High Street, Watford.

WANTED immediately, a qualified outdoor Assistant, to manage an old-established country business; must be gentlemanly and of character bear the strictest investigation; a knowledge of the Welsh language indispensable; one seeking a permanency required. Apply, stating age, experience, and photo if convenient, to Walter J. Vaughan, Solicitor, Fishguard.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Wanted, an Assistant Dispenser; Minor qualification; age, 21 and not exceeding 30 years; salary £92 per annum. Applications, with copies only of testimonials, to reach the Secretary on or before Thursday, 20th inst. Candidates must appear before Committee without further notice on Monday, September 24, at 10.30 A.M. R. J. Gilbert, Secy. Supt.

SITUATIONS WANTED.

1s. for twelve words; 6d. for every six words beyond.

ASSISTANT: qualified; good experience; highest references; aged 26; outdoors. W. M., 53 Moreton Street, S.W.

LOCUM-TENENS: qualified; experienced; good prescriber; tall; teetotaler; Hall. Roberts, Holbein House, Poikestone.

OUTDOOR Assistant; aged 23; tall; good experience; has managed branch. F. T., 67 Russell Street, Peterborough.

MANAGER for Branch; can prescribe and extract teeth; qualified. "Minor," 195 Arundel Street, Sheffield.

MANAGER or Dispenser; Surgeon's or Chemist's; temporary or permanent. James Dunkerly, M.P.S., 88 Mortou Road, Islington, N.

TEMPORARY, disengaged October 1. G. Harold, 3 High Street, Clapham, S.W.

SITUATION required by Junior Assistant; salary 24*l*. Mr. Day, care of W. R. Hues, Handsworth, Birmingham.

JUNIOR (20); height 5 ft. 7 in.; 4½ years' experience; disengaged about September 28. H. L., Hill's Court House, Exeter.

ASSISTANT or Branch Manager; good prescriber; aged 27. "Max," 3 Shoreditch, E.

M. R. H. SEYMOUR, 37 Milk Street, Bristol, takes charge in the temporary absence of the principal.

ASSISTANT: aged 27; medium height; town and country experience. Address, C. Bridger, 9 Market Place, Henley-on-Thames, Oxon.

PART Time instead of salary, by Student at Bloomsbury Square; October; Redwood Scholar. J., 161 Marine Parade, Brighton.

IMPROVER; first-class business; good experience; extract teeth; aged 20. 2 Eden Street, Kettering.

BRANCH Manager or Outdoors; 36; married; West-end experience; speaks French and German. K., 213 Camberwell New Road.

DISPENSER to Surgeon; disengaged on the 27th. B., Maston Pharmacy, South Wimbledon.

JUNIOR in Dispensing business; aged 20; height, 6 ft. 2 in.; 4½ years' experience. Barron, Squire & Co., Bush Lane, E.C.

JUNIOR; London preferred; 5 years' experience; aged 21; height 5 feet 7 inches; good references. J. M. Sanford, Keunford, Exeter.

ASSISTANT; 9 years' good-class Dispensing experience. "Cherious," 120 Salop Street, Wolverhampton.

AS Manager or Senior; qualified; thoroughly experienced; married; disengaged. "Strophanthus," Chemist, Pickering.

M. R. S. SMITH, 4 Lodge Street, Bristol, takes Confidential Management during absence or illness; considerable experience in country business; disengaged for October 16th.

PART Time; disengaged after 3; vicinity of Bloomsbury Square preferred, good experience and references. Mallinson, Bridge Street, Spalding.

JUNIOR, aged 21 years; height 5 ft. 8 in.; 4½ years' experience; good references. Leaper, 106 Wellesley Road, Yarmouth.

AS Half-time Assistant, good dispenser, &c. J. N., 4 Cherryton Street, Manchester.

WET-COUNTER; export; good London reference. "Acido," 23 Kincaird Road, Peckham.

ASSISTANT or Branch Manager; aged 28; tall, experienced. Brawn, 3 Camden Road.

MANAGER; Surgeon's or Chemist's; registered; 27 years' experience. "Manager," 1 East Street, Loftus, Cleveland.

AS Assistant; qualified; October 22; height 5 ft. 11 in.; accustomed to good-class retail. A. Bellamy, Maiden Row, Louth, Lincs.

AS Manager, Senior Dispenser (26); 10 years' experience; prescribe, extract; nearly 4 years in present situation as manager and senior. Address, X. O., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ASSISTANT or Branch Manager; 13 years' town and country experience; temporary not objected to; aged 29. A. L., 12 Foubert's Place, Regent Street, W.

TEMPORARY, by day, week, or month, by a gentleman who has three months at his disposal, aged 40. L. E., 11 Harleyford Road, Vauxhall.

PATENT Medicine and Sundries Trade.—Situation wanted by respectable youth; 4 years' experience; aged 19; salary moderate. C. T., 24 George Street, Cambridge Heath Road, E.

AYOUTH, aged 17, requires a situation in a Chemist and Druggist's; passed Elementary Examination, South Kensington; good reference. H. L., 13 St. Bartholomew Road, Holloway.

ASSISTANT, unqualified; quick Dispenser; had experience with medical man; aged 27; excellent references. Bennett, Prospect Terrace, Gunislake, Tavistock.

ASSISTANT wants situation, outdoors; married; aged 34; good experience and references; accustomed to general trade. G. C., 30 Manchester Street, Argyle Square, W.C.

ASSISTANT; aged 26; 6 years' experience; English and French; salary no object; time to study; disengaged October. Harry Gellco, 42 Rue d'Anteuil, Paris.

ASSISTANT or Manager; 9 years' first-class West End and provincial experience; Minor; aged 25; height 6 ft.; highest references. H., 74 Waterloo, Northampton.

AS Junior or Improver; time for study in lieu of salary; speaks French; has knowledge of French Pharmacy; aged 21; first-class references; London preferred. W., Beech House, Wallington, Surrey.

DRUG TRADE.—Will give 6 months (indoors) for improvement; aged 26. "Chemicus," 45 Barton Street, Barton Gate, Gloucester.

BY unqualified Assistant as Dispenser, or to manage branch; small salary (11 years' experience). E. Porter, 25 Queen's Crescent, Reading.

AS Manager, or temporary; experienced; position of trust; seaside preferred. Address, R.E., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

LOCUM-TENENS, or permanent; Hospital or Surgeon's Dispenser or Chemist's Retail; unquestionable references; moderate terms. "Statin," 20 Princes Street, Landport, Hants.

TEMPORARY; thorough experience; town or country; undeniable references; abstainer; registered; terms moderate. "Chemist," 172 Caledonian Road, London.

FRENCH Chemist, qualified by examination, requires situation where board and lodging, would be given in lieu of salary; preliminary knowledge of English. "Gaziello," Quai St. Jean Baptiste, Nice, France.

BRANCH Manager or Senior; qualified; single; references; Retail, Dispensing, and Prescribing experience. F. B., 155 St. Michael's Hill, Bristol.

AS Druggist's Porter or Warehouseman; 16 years' experience; first-class reference. 3/30, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ADVERTISER (small capital), experienced, desires situation or share in good business where his services would be required and his extensive knowledge of the trade could be applied advantageously. Apply, M. E. D., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

DRUGGISTS' Sundries.—Advertiser, well known in the trade, is desirous of wholly representing a good firm; salary and commission; has a practical knowledge of all departments; now disengaged. Address, "Sundries," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ASSISTANT ("crotch"); 20; 5 years' experience; passed Preliminary; total abstainer; slight knowledge of French; desires engagement in high-class Pharmacy, London or South Coast preferred, or would go to France; disengaged October "crotch," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

MANAGEMENT or responsible position wanted in good business, aged 31; Minor; excellent experience and references; 5 years manager of large business; pleased to meet gentleman wishing partial or entire relief from detail. "Magnes," care of Messrs. Barker, Stagg & Morgan, 15 Launceston Pountney Lane, London, E.C.

TO Manufacturing Chemists, &c.—Engagement at home or abroad desired by a Pharmaceutical Chemist, F.C.S., silver medallist in Practical Chemistry of the Pharmaceutical Society; good experience as analyst and director of manufacturing departments in a London Wholesale house; excellent references. Address, "Pyroxylin," 9 New Union Street, Finsbury, E.C.

APPRENTICESHIPS.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

WANTED, to place well educated youth, aged 16 (who has passed Oxford Local Examination), as indoor or outdoor Apprentice to Chemist and Druggist. Mr. James Howorth, 12 Avenham Road, Preston.

A. THOMPSON, M.P.S., Pharmaceutical and Analytical Chemist, 95 High Street, Putney, S.W., has a vacancy for a Pupil, indoors; moderate premium; exceptional opportunity.

MISCELLANEOUS.

Special charges are made for Advertisements under this heading, which can be obtained on application.

COCA WINE.

The sale of this article must be protected by a wine licence (50s. per annum.) Where a wine licence is not already held, the proprietors are willing to defray the entire cost of an annual licence for customers who order at least 6 dozen bottles of Coca Wine (assorted) in each year, or a proportionate share of the expense on smaller lots. Orders to be sent direct to

ARMBRECHT, NELSON & CO., 2 Duke Street, Grosvenor Sq., LONDON, W.

BOXES.—Light Wood Boxes, cheapest, strongest, and best, suitable for packing all kinds of articles for transmission by post or rail; all sorts and sizes of boxes made to order; samples and price-lists, 4 stamps. Write for sample, stating size required, to T. Casbon, Millfield Box Works, Peterborough.

PRELIMINARY AND MINOR.

ALL Students who are preparing should send for particulars of a method of study which will enable them to pass with ease. Enclose stamped envelope to Mr. J. Tully (Hills Prizeman), Chemist, Hastings. Established 1872. References to past and present Pupils. 32 Pupils passed the last Examinations.

STUDENTS' AIDS TO EXAMINATION.

PRELIMINARY.—Arithmetic and Metric System, 1s. How to Write an Essay, 3d. Caesar Simplified, 1s. Knotty Points in Latin Grammar, 1s. 6d. **MINOR**.—Equations Simplified, 1s. Illegible Autographic Prescriptions, 1s. Notes on Dispensing, 1s. Prescriptions given at the Minor, 6d. "Chemist," care of Mr. J. Edwards, Wye, Kent.

OUR WEEKLY SUPPLEMENT.

We have prepared a set of forms for small advertisements (assistants wanted, businesses for disposal, exchange column, &c.). With these are attached tables of useful reference matter (Sale of Poisons, Postal Information, Annual Licences, Metric Weights, Measures, Medicine Stamps, Law and Public Offices, &c.). We shall be glad to send one of these sets to any subscriber who will send us an addressed postal wrapper (bearing a halfpenny stamp). As the object of this production is to encourage the insertion of such advertisements as we have named in THE CHEMIST AND DRUGGIST, we hope this offer will be taken advantage of chiefly by those subscribers who are willing to use this journal whenever opportunities occur.

OFFICES: 42 CANNON STREET, LONDON, E.C.